

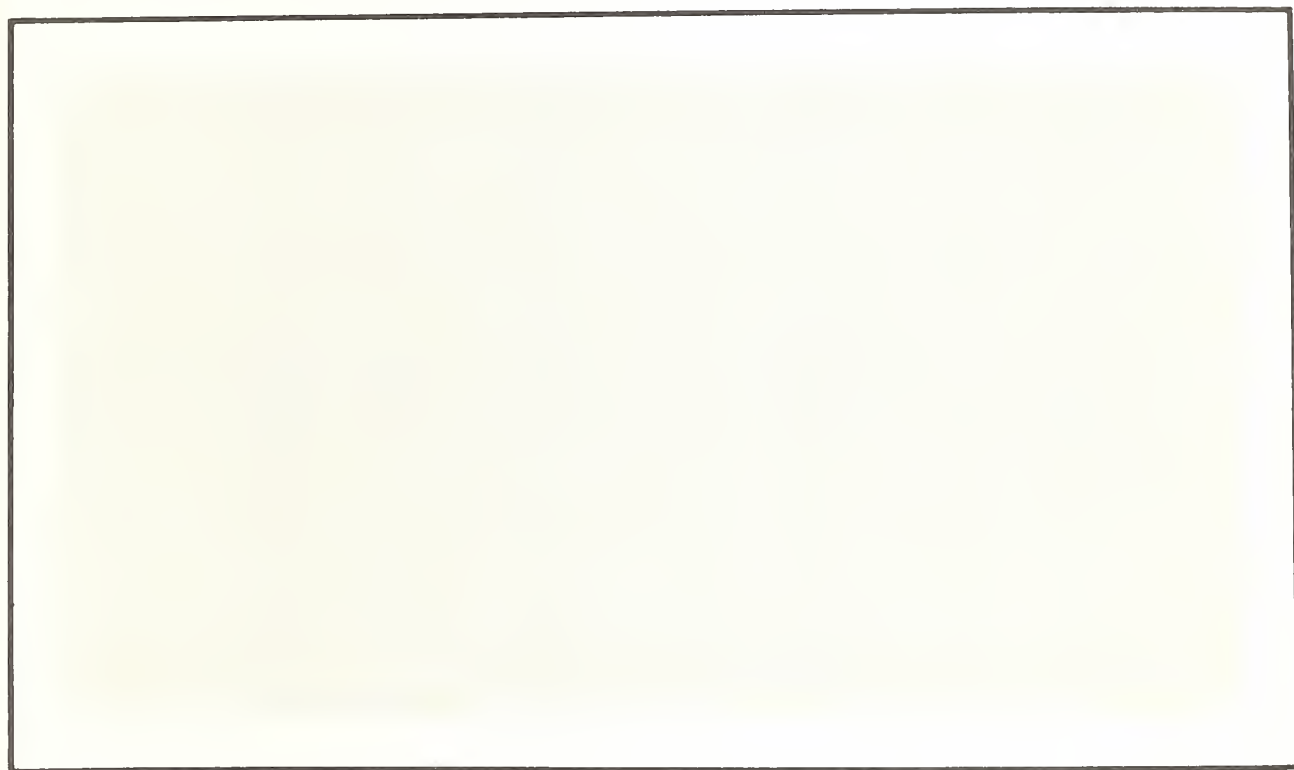
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Fig. 3

Chemicals Tested as Acaricides To Control One-Host Ticks, U.S. Livestock Insects Laboratory, 1962-77



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Science and Education Administration

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T. M. Whetstone, S. E. Ernst, and J. L. Trevino (retired), biological technicians, U.S. Livestock Insects Laboratory, provided technical help in the conduct of these tests. E. M. Osborne, head, Chemicals Coordination Unit, Agricultural Environmental Quality Institute, Science and Education Administration, Beltsville, Md., provided the chemical nomenclature.

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Chemicals Tested as Acaricides To Control One-Host Ticks, U.S. Livestock Insects Laboratory, 1962-77

By R. O. Drummond¹

ABSTRACT

Seven hundred seventy-one chemicals were tested to determine their effectiveness in controlling engorged females of the southern cattle tick, *Boophilus microplus* (Canestrini); the cattle tick, *B. annulatus* (Say); the tropical horse tick, *Anocentor nitens* (Neumann); and the winter tick, *Dermacentor albipictus* (Packard). Effectiveness was determined by calculating the reproduction potential of females that had been dipped in 0.01-, 0.1-, and 1-percent concentrations of the chemicals. Of the 771 compounds, only 24 (3 percent) at the 0.01-percent concentration provided more than 90 percent control of oviposition and hatch in all species they were tested against; 172 compounds (22 percent) at the 0.01-percent concentration provided more than 90 percent control in one or more species. Most of the effective acaricides were organophosphates. The standard test method and complete results are given. Index terms: acaricides, *Anocentor nitens* (Neumann), *Boophilus annulatus* (Say), *Boophilus microplus* (Canestrini), *Dermacentor albipictus* (Packard), livestock pests, pesticides, test methods, ticks, U.S. Livestock Insects Laboratory.

INTRODUCTION

At the U.S. Livestock Insects Laboratory, Kerrville, Tex., we have been searching for new acaricides to control ticks of livestock. An in vitro test to determine the toxicity of available acaricides and candidate compounds, in terms of effect on the reproduction of engorged females, was first used in laboratory trials in Mexico with *Boophilus annulatus* (Say), the cattle tick, and *B. microplus* (Canestrini), the southern cattle tick (Graham and Drummond 1964). With these and other one-host species of ticks, the only life stages found off the host are the engorged female, egg, and unengorged larva. The availability of many laboratory-reared, engorged female ticks, their large size and easy handling, the simple measurements needed (two

weighings and one observation), the ease of computing effectiveness, the highly satisfactory dosage-mortality response, and the significant relationship between data from these in vitro tests and in vivo tests with the same acaricides applied as sprays to cattle for tick control (Drummond, Ernst, et al. 1973)—these factors led us to standardize the procedure into a screening test to determine the acaricidal effectiveness of a large number of candidate materials that are received at the Kerrville laboratory. In addition, we have used this technique to determine LC₅₀ and LC₉₀ values for a number of acaricides that have been used or show promise for the control of the following ticks affecting livestock: *Dermacentor albipictus* (Packard), the winter tick (Drummond, Gladney, et al. 1971a), and *Anocentor nitens* (Neumann), the tropical horse tick (Drummond, Gladney, et al. 1971b), both one-host species; and *Amblyomma americanum* (L.), the lone star tick (Drummond and Whetstone 1973), a three-host species. The

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technique has also been used to test a number of new acaricides against *B. annulatus* and *B. microplus* (Drummond, Ernst, et al. 1973) and to determine whether strains of *B. microplus* collected in Texas and Mexico were resistant to nine standard acaricides (Drummond, Ernst, et al. 1976).

At Kerrville, we maintain colonies of the winter tick (Drummond, Whetstone, et al. 1969a) and the tropical horse tick (Drummond, Whetstone, et al. 1969b) on bovines. From 1964 to 1974 we maintained colonies of the cattle tick and the southern cattle tick at a small worksite in Nuevo Laredo, Tamaulipas, Mexico; since 1974, both species have been maintained at our Cattle Fever Tick Laboratory at Falcon Heights, Tex. The present report summarizes the results of testing, by standardized techniques (Drummond, Ernst, et al. 1973, 1976; Drummond, Gladney, et al. 1971a, 1971b), 771 candidate acaricides against one or more of these four species of one-host ticks.

STANDARD TEST METHOD

If a candidate acaricide is received as technical-grade material, it is usually formulated as an emulsifiable concentrate (EC) containing 25 percent active ingredient (AI), 65 percent xylene (solvent), and 10 percent Triton X-100 (emulsifier). (Because of the low solubility of some compounds, the AI is often less than 25 percent, and in certain cases, *N*-methyl-2-pyrrolidone is mixed equally with the xylene and Triton X-100 mixture.) When available, commercially supplied emulsifiable concentrates and wettable powders are used. The formulations are diluted with water to 1-, 0.1-, and 0.01-percent concentrations immediately before the ticks are treated. Usually, 50 milliliters of the 1-percent concentration is prepared. Five milliliters of this concentration is diluted with 45 milliliters of water to 0.1 percent. In turn, 5 milliliters of this concentration is diluted with 45 milliliters to 0.01 percent.

Engorged female ticks are allowed to detach naturally from bovine hosts. They are collected from girdles or cloth bags encircling parts of the hosts or from the floors of the pens or stalls holding the cattle, washed in tapwater to remove manure and other debris, dried, placed in groups of 10, and weighed. A group of 10 ticks is placed in each dilution, and the liquid and ticks are vigorously stirred for about 30 seconds. Then the liquid and ticks are poured out on wire screen to recover the

ticks. The ticks are allowed to drain for a few minutes and then are placed on paper towels to dry. After the ticks are dry, they are placed in cotton-stoppered, 8-dram, shell vials and held at $27^{\circ}\pm 1^{\circ}$ C and above 80 percent relative humidity for oviposition. After 2 or 3 weeks, the females are discarded, and the eggs weighed. After about a month, the percentage of hatch is estimated visually by comparing the number of larvae or empty eggshells with the number of unhatched eggs.

For controls in any series of tests, several groups of 10 ticks collected at the same time from the same animal(s) are dipped in 50 milliliters of an emulsion containing 2.6 percent xylene and 0.4 percent Triton X-100 (the amount in a 1-percent-AI concentration) or the combination with *N*-methyl-2-pyrrolidone. Thereafter, the controls are handled the same as toxicant-treated ticks.

The effectiveness of a candidate acaricide is determined by the formulas of Drummond, Ernst, et al. (1973). First, estimated reproduction (ER) is calculated for each group of treated ticks and its control groups:

$$ER = \frac{\text{Wt. eggs laid (g)}}{\text{Wt. females (g)}} \times \text{est. hatch (\%)} \times 20,000.$$

In this formula, 20,000 is a constant for the number of larvae in 1 gram of eggs. Second, the ER of each group of treated ticks is compared with the ER of its control groups, to find the percentage of control afforded by each acaricide concentration:

$$\text{Control (\%)} = \frac{ER \text{ control ticks} - ER \text{ treated ticks}}{ER \text{ control ticks}} \times 100.$$

In these tests, a concentration of a candidate acaricide affording more than 90 percent control of ER is considered effective. Materials are classified according to effectiveness of concentrations as follows:

- Class 1: Ineffective at 1 percent.
- Class 2: Effective at 1 percent.
- Class 3: Effective at 0.1 percent.
- Class 4: Effective at 0.01 percent.

RESULTS

The 771 candidate acaricides tested are listed alphabetically and classified in table 3. In the "Index of Materials" they are listed by AI3 number,² identified by company number, trade name, or common name, and referenced to the item number in table 3.

²Numbers assigned by the Science and Education Administration to chemicals used in entomological investigations.

Table 1.—Separation of candidate acaricides into four effectiveness classes by tick species

Species	No. (%) acaricides in class—				Total No.
	1	2	3	4	
<i>Boophilus</i> :					
<i>annulatus</i>	235 (35)	235 (35)	157 (23)	52 (7)	679
<i>microplus</i>	206 (29)	266 (37)	151 (21)	94 (13)	717
<i>Anocentor nitens</i>	127 (25)	124 (25)	163 (32)	93 (18)	507
<i>Dermacentor</i>					
<i>albipictus</i>	150 (32)	188 (40)	96 (21)	33 (7)	467

Table 2.—Ranking of some common acaricides by LC₅₀ for *B. microplus* and by average classification in screening tests

Acaricide and formulation ¹	Item No. ²	LC ₅₀ rank for <i>B. microplus</i> ³	Screening tests	
			Average classification ⁴	Rank
Shell SD-8448 (25% XT)	503	1	3.75	4
Compound 4072 (4 lb/gal EC)	494	2	4.00	2
Isobenzan (15.1% EC)	350	3	4.00	1
Carbophenothion (25% WP)	549	4	4.00	3
Chlorpyrifos (1 lb/gal EC)	671	5	3.00	13
Lindane (20% XT)	262	6	3.67	5
Stirofos (2 lb/gal EC)	504	7	3.40	7
Coumaphos (11.6% EC)	635	8	3.40	8
Carbophenothion (42.2% EC)	549	9	3.00	11
Ethion (25% XT)	614	10	3.50	6
Dioxathion (30% EC)	586	11	3.25	9
Phosmet (11.9% EC)	566	12	3.00	10
Phosmet (50% WP)	566	13	2.67	17
Bromophos-ethyl (40% EC)	622	14	3.00	12
Coumaphos (25% WP)	635	15	2.00	24
Mexacarbate (23% EC)	208	16	2.80	15
Diazinon (25% EC)	661	17	2.75	16
Crotoxyphos (25% XT)	136	18	2.80	14
Fenthion (26% EC)	679	19	2.50	18
Rotenone (5% EC)	106	20	2.00	22
Trichlorfon (25% XT)	395	21	2.25	20
Phosphamidon (25% XT)	499	22	1.50	29
Toxaphene (61% EC)	113	23	2.00	21
Carbaryl (20% EC)	231	24	2.25	19
Famphur (25% EC)	694	25	1.67	28
Carbaryl (85% SP)	231	26	2.00	23
Carbanolate (75% WP)	195	27	1.50	30
Malathion (25% XT)	122	28	1.00	31
Bromophos (20% EC)	623	29	2.00	25
DDT (25% XT)	32	30	1.00	32
Crufomate (25% EC)	466	31	2.00	26
Ronnel (24% EC)	691	32	1.80	27

¹EC, Commercially supplied emulsifiable concentrate. WP, Commercially supplied wettable powder. XT, Laboratory-prepared EC in xylene and Triton X-100.

²In table 3.

³From Drummond, Ernst, et al. (1973).

⁴Determined by adding the classifications of all species tested (table 3) and dividing the sum by the number of species tested.

Certain candidate acaricides were tested against a species twice. If the classification was the same both times, no mention is made in table 3. If there were differences in the classification, the higher classification is in parentheses following the lower classification.

Not all chemicals were screened against all species of ticks; most were tested against *B. microplus* and the least against *D. albipictus* (table 1). Also, the four species appear to differ in susceptibility to the acaricides tested. As shown in table 1, 50 percent of the acaricides tested against *A. nitens*, 34 percent of those tested against *B. microplus*, 30 percent tested against *B. annulatus*, and 28 percent tested against *D. albipictus* fell in classes 3 and 4. Thus, *A. nitens* appears to be the most susceptible species, while *D. albipictus* and *B. annulatus* are the least susceptible.

Of the 771 chemicals, 172 (22 percent) fell in class 4 against one or more species. This high percentage of active materials was not unexpected, for most of the candidates were known to be toxic to other arthropods. Most of the compounds tested are organophosphates.

The following 24 acaricides fell in class 4 with all species they were tested against: Item Nos. 44, 102, 130, 350, 404, 408, 435, 449, 454-456, 458, 462, 476, 482, 494, 495, 505, 512, 533, 565, 570, 634, and 636. All of these acaricides, except item 102, which is a sulfite, and item 350, which is a cyclic diene, are organophosphates. The compounds seem to have no chemical affiliations that might suggest an acaricidal property common to all. Only one, item 494, Compound 4072 (2-chloro-1-(2,4-dichlorophenyl)ethenyl diethyl phosphate), is on the market for tick control.

Among the compounds tested were formulations of 29 potential or commonly used acaricides for which the mean lethal concentration (LC_{50}) against *B. microplus* had been determined (Drummond,

Ernst, et al. 1973). The ranking of these acaricides by LC_{50} against *B. microplus* and the ranking by average classification in the screening tests (table 3) are presented in table 2. Analysis of the data in table 2 shows that the screening test was equally successful in revealing the most effective acaricides: generally, the formulations with the lowest LC_{50} for *B. microplus* had the highest average classification in the screening tests. By Spearman's nonparametric rank correlation (Siegel 1956), the $r_s = 0.924$ for the rankings is statistically significant at the 1-percent level, a very close correlation.

REFERENCES

- Drummond, R. O.; Ernst, S. E.; Trevino, J. L.; Gladney, W. J.; and Graham, O. H.
 1973. *Boophilus annulatus* and *B. microplus*: Laboratory tests of insecticides. *J. Econ. Entomol.* 66: 130-133.
 1976. Tests of acaricides for control of *Boophilus annulatus* and *B. microplus*. *J. Econ. Entomol.* 69: 37-40.
 Drummond, R. O.; Gladney, W. J.; Whetstone, T. M.; and Ernst, S. E.
 1971a. Laboratory testing of insecticides for control of the winter tick. *J. Econ. Entomol.* 64: 686-688.
 1971b. Testing of insecticides against the tropical horse tick in the laboratory. *J. Econ. Entomol.* 64: 1164-1166.
 Drummond, R. O., and Whetstone, T. M.
 1973. Lone star tick: Laboratory tests of acaricides. *J. Econ. Entomol.* 66: 1274-1276.
 Drummond, R. O.; Whetstone, T. M.; Ernst, S. E.; and Gladney, W. J.
 1969a. Biology and colonization of the winter tick in the laboratory. *J. Econ. Entomol.* 62: 235-238.
 1969b. Laboratory study of *Anocentor nitens* (Neumann) (Acarina: Ixodidae), the tropical horse tick. *J. Med. Entomol.* 6: 150-154.
 Graham, O. H., and Drummond, R. O.
 1964. Laboratory screening of insecticides for the prevention of reproduction of *Boophilus* ticks. *J. Econ. Entomol.* 57: 335-339.
 Siegel, S.
 1956. Nonparametric statistics for the behavioral sciences. 313 pp. McGraw-Hill, New York.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
1	29242	Acetamide, N-[2-amino-3-nitro-5-(trifluoromethyl)phenyl]-2-chloro-2,2-difluoro-	20	2	3	3	3
2	27403	Acetamide, 2-fluoro-N-methyl-N-1-naphthalenyl-	³ 25	3	3	2	-
3	27871	Acetic acid, [[3,5-bis(trifluoromethyl)=phenyl]hydrazono]cyano-, methyl ester	⁴ 10 20	1 -	- 1	- 1	- 1
4	32599	Acetic acid, bromo-, 10-undecenyl ester	25	-	2	-	-
5	32597	Acetic acid, chloro-, 10-undecenyl ester	25	1	-	-	-
6	27814	Acetic acid, [(dimethoxyphosphinyl)thio]-, 2-(2-cyanopropyl)-2-methylhydrazide	⁴ 10 25	3 -	2 -	- 3	- 3
7	27509	Acetic acid, [(ethoxyethylphosphinothioyl)thio]-, 2,2-dimethylhydrazide	25	3	3	3	3
8	29272	Acetic acid, [[methoxy(methylthio)phosphinyl]=amino]oxo-, ethyl ester	20	2	3	-	2
9	16308	Arsonic acid, (4-aminophenyl)-	20	-	-	-	1
10	29289-X	Arsonic acid, (4-aminophenyl)-, monosodium salt	20 25	- -	- -	- 1	1 -
11	70564	1H-Azepine, 1,1'-carbonylbis[hexahydro-	25	1	1	2	-
12	27770	Benzamide, N-acetyl-3-chloro-N,2,6-trimethoxy-	20	2	2	2	2
13	27784	Benzamide, N-benzoyl-3-chloro-N,2,6-trimethoxy-N-propyl-	20 ⁴ 20	1 -	2 -	1 1	1 -
14	27633	Benzamide, N-butyl-3-[[[dichlorofluoromethyl)=thio](trifluoromethyl)amino]-	20 25	2 -	2 -	2 -	1 1
15	70647	Benzamide, N-(2-chloro-2-propenyl)-3,5-dimethyl-N-propyl-	25	1	1	1	1(2)

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	Anocentor nitens	Dermacentor albipictus
16	29020	Benzamide, N-[3-chloro-4-(4-chlorophenoxy)phenyl]-2-hydroxy-3,5-diiodo-	5 2.3 25 20	1 - -	1 - -	1 1 -	1 - 1
17	29054	Benzamide, N-[[4-(chlorophenyl)amino]carbonyl]-2,6-difluoro-	20 25	1 -	1 -	- 1	- 1
18	70648	Benzamide, N-1-cyclohexen-1-yl-3,5-dimethyl-N-[3-(1-methylethoxy)propyl]-	25	1	1	1	1
19	28950	Benzamide, N,N-diethyl-1-5-methyl-2-nitro-	25	1	1	1	-
20	70646	Benzamide, 2-methyl-N,N-di-2-propenyl-	25	1	1	1	1
21	29106	Benzenamine, 4-chloro-N-1,3-dithietan-2-ylidene-2-methyl-	20 25	3 -	3 -	- 4	- 2
22	27947	Benzene, 1,4-bis(2-propynyloxy)-	25 20	1 -	2 -	- 1	- -
23	29314	Benzene, 1,1'-(2-chloropropylidene)bis[4-ethoxy-	25 3 2 lb/gal	1 1	1 1	1 1	1 1
24	27391	Benzene, 1,1'-(2,2-dichlorocyclopropylidene)bis(4-ethoxy-	20	1	1	-	-
25	4225	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	20	-	-	1	-
26	27627	Benzene, 1-[[4-(1,1-dimethylethyl)phenyl]thio]-4-isocyano-	10 20	1 -	1 -	1 -	- 1
27	23395	Benzene, 1,1'-(2,2-dimethyl-1,3-propanediyl)bis[4-methoxy]-	25 20	1 -	- 1	- -	- -
28	29315	Benzene, 1,1'-(2-methylpropylidene)bis[4-ethoxy-	25 3 2 lb/gal	1 -	1 -	1 1	1 1
29	18066-X	Benzene, 1,1'-(2-nitrobutylidene)bis[4-chloro-, mixt. with 1,1'-(2-nitropropylidene)bis[4-chlorobenzene]	25 6 50	1 -	2 -	- 2	1 -

30	27990	Benzene, 1,1'-(2-nitropropylidene)bis (4-ethoxy-	25	1	2	1	2
31	27115	Benzene, 1,2,4-trichloro-5- [(4-chlorophenyl)thio]-	25 20	1	1	-	-
32	1506	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-chloro]-	³ 25 650 25	1	1	2	-
33	27345	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis (4-chloro)-	20	1	1	-	-
34	1716	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-	25	-	-	1	-
35	27722	Benzeneacetic acid, 4-bromo- α -(4-bromophenyl)- α -hydroperoxy-, 1-methylethyl ester	20 25	1	1	2	1
36	27605	Benzeneacetic acid, 4-bromo- α -(4-bromophenyl)- α -hydroxy-, ethyl ester	25	1	1	1	1
37	27721	Benzeneacetic acid, 4-chloro- α -(4-chlorophenyl)- α -hydroperoxy-, 1-methylethyl ester	20	1	1	1	1
38	27797	Benzeneacetic acid, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	25 20	1	2	-	1
39	29235	Benzeneacetic acid, 4-chloro- α -(1-methylethyl)-, cyano(3-phenoxyphenyl)methyl ester	25	2	2	3	2
40	27386	Benzeneacetic acid, α -[(dimethoxyphosphinothioyl)thio]-, ethyl ester	25	2	3	-	-
41	27449	Benzeneacetoneitrile, 2-chloro- α -[(diethoxy= phosphinothioyl)oxy]imino]-	20	3	4	-	-
42	27485	Benzeneacetoneitrile, 2,6-dichloro- α -[(diethoxy= phosphinothioyl)oxy]imino]-, α isomer	20 25	3	3	-	-
43	27469	Benzeneacetoneitrile, 2,6-dichloro- α -[(diethoxy= phosphinothioyl)oxy]imino]-, β isomer	20 25	3	4	-	-
44	27448	Benzeneacetoneitrile, α -[(diethoxyphosphino= thioyl)oxy]imino]-	25	4	4	-	-
45	27841	Benzeneacetoneitrile, α -[(diethoxyphosphino= thioyl)oxy]imino]-2-methyl-	25	4	4	3	2
46	27626	Benzeneacetoneitrile, α -[(diethoxyphosphinyl)= oxy]imino]-2-methyl-	25	2	2	3	4
47	29102	Benzeneacetoneitrile, α -[(dimethoxyphosphino= thioyl)oxy]imino]-	25	2	1	-	2

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
48	29101	Benzenecetonitrile, α -[[(dimethoxyphosphino=thioyl)oxy]imino]-2-methyl-	25	2	2	-	-
49	29019	Benzenecarbohydrazonoyl chloride, 4-methyl-N-phenyl-	20 410	-	3	-	-
50	27645	Benzenecarbohydrazonoyl chloride, N-phenyl-	410 20	-	2	-	2
51	27646	Benzenecarbohydrazonoyl chloride, N-(2,4,6-trichlorophenyl)-	410	-	1	2	1
52	70377	Benzenecarbothioamide, N-(phenylmethyl)-	20	-	-	1	1
53	27546	Benzenecarboximidic acid, 3,6-dichloro-N-ethoxy-2-methoxy-, anhydride with benzoic acid	20	2	2	1	-
54	27545	Benzenecarboximidic acid, 3,6-dichloro-N-ethoxy-2-methoxy-, anhydride with 4-methylbenzoic acid	25	2	2	-	-
55	29010	Benzenecarboximidic acid, N-ethoxy-, anhydride with 0,0-diethyl phosphorothioate	25	2	2	3	2
56	29035	1,4-Benzenediol, 2,6-bis(1,1-dimethylethyl)-, 4-methylcarbamate	410 20 10	1 - 1	1 - 1	- 1 -	- 1 -
57	27771	Benzenemethanol, 5-chloro-2-(dimethylamino)- α -(2-methylphenyl)-, benzoate	20	1	2	1	1
58	27786	Benzenemethanol, 5-chloro-2-(dimethylamino)- α -phenyl-, benzoate	20 25	1 -	1 -	1 -	- 1
59	29208	Benzenesulfenamide, 4-chloro-N-[[(4-chloro-2-methylphenyl)imino]methyl]-N-methyl-	25	-	-	2(3)	2
60	29209	Benzenesulfenamide, 4-chloro-N-[[(2,4-dimethylphenyl)imino]methyl]-N-methyl-	25	-	-	3	3
61	29207	Benzenesulfenamide, N-[[(4-chloro-2-methylphenyl)imino]methyl]-N,4-dimethyl-	25	-	-	2	1
62	29212	Benzenesulfenamide, N-[[(4-chloro-2-methylphenyl)imino]methyl]-4-(1,1-dimethylethyl)-N-methyl-	25	2	2	2	2
63	29205	Benzenesulfenamide, N-[[(4-chloro-2-methylphenyl)imino]methyl]-N-methyl-	25	-	-	3	2

64	29211	Benzenesulfenamide, 4-(1,1-dimethylethyl)-N-[[(2,4-dimethylphenyl)imino]methyl]-N-methyl- imino]methyl]-N,4-dimethyl-	25	-	4	3	2
65	29206	Benzenesulfenamide, N-[[(2,4-dimethylphenyl)= imino]methyl]-N,4-dimethyl-	25	-	-	3	2
66	29127	Benzenesulfenamide, N-[[(2,4-dimethylphenyl)= imino]methyl]-N-methyl-	25	3	3	4	2
67	29194	1H-Benzimidazole-1-carboxylic acid, 2-(chlorodifluoromethyl)-4-nitro-6-(trifluoromethyl)-, 1-methylethyl ester	25	1	2	2	2
68	29065	1H-Benzimidazole-1-carboxylic acid, 2-(chlorodifluoromethyl)-4-nitro-6-(trifluoromethyl)-, phenyl ester	20	2	2	-	-
69	29325	1H-Benzimidazole-1-carboxylic acid, 2-(chlorodi- fluoromethyl)-4-nitro-6-(trifluoromethyl)-, 2-propenyl ester	25	-	-	2	2
70	27438	1H-Benzimidazole-1-carboxylic acid, 5,6-dichloro-2-(trifluoromethyl)-, phenyl ester	20	1	1(2)	-	-
71	29055	1H-Benzimidazole-1-carboxylic acid, 4,6-diiodo-2-(trifluoromethyl)-, 1-methylethyl ester	20	1	1	-	-
72	27953	1H-Benzimidazole-1-carboxylic acid, 4-nitro-2,6-bis(trifluoromethyl)-, 1-methylethyl ester	20	2	2	3	2
73	29048	1H-Benzimidazole-1-carboxylic acid, 4-nitro-2,6-bis(trifluoromethyl)-, phenyl ester	25	2	2	-	-
74	29196	1H-Benzimidazole-1-carboxylic acid, 4-nitro-2-(1,1,2,2-tetrafluoroethyl)-6-(trifluoromethyl)-, 1-methylethyl ester	20	2	2	2	-
75	29326	1H-Benzimidazole-1-carboxylic acid, 4-nitro-2-(1,1,2,2-tetrafluoroethyl)-6-(trifluoromethyl)-, 2-propenyl ester	25	-	-	2	2
76	29197	1H-Benzimidazole, 2-(chlorodifluoromethyl)-1-methyl-4-nitro-6-(trifluoromethyl)-	15	-	-	-	1
77	29049	1H-Benzimidazole, 2-(chlorodifluoromethyl)-4-nitro-6-(trifluoromethyl)-	20	1	1	-	-
78	29195	1H-Benzimidazole, 1-methoxy-4-nitro-2-(1,1,2,2-tetrafluoroethyl)-6-(trifluoromethyl)-	25	3	3(4)	-	-
			20	-	-	3	-
			25	2	2	2	2

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				annulatus	microplus	Anocentor nitens	Dermacentor albipictus
79	29271	1H-Benzimidazole, 4-nitro-2-(1,1,2,2-tetrafluoroethyl)-6-(trifluoromethyl)-	25	3	3	4	3
80	24970	1H-Benz[de]isoquinoline-1,3(2H)-dione, 2-[(diethoxyphosphinothioyl)oxy]-	25	3	4	-	-
81	27540	1,3,2-benzodioxathiole, hexahydro-3a, 7a-dimethyl-, 2-oxide	25	1	1	1	1
82	27539	1,3,2-benzodioxathiole, hexahydro-3a-methyl-6-(1-methylethenyl)-, 2-oxide	20	1	1	-	-
83	27658	Benzoic acid, 2-[(aminoethoxyphosphinothioyl)oxy]-, 1-methylethyl ester	25 20	- 3	- 3	4 4	- 3
84	27659	Benzoic acid, 2-[(aminomethoxyphosphinothioyl)oxy]-, 1-methylethyl ester	25 20	- -	4 -	4 -	- 3
85	27776	Benzoic acid, 3-chloro-, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20	1	1	1	1
86	27774	Benzoic acid, 4-chloro-, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20	1	1	1	1
87	27787	Benzoic acid, 2-chloro-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	20	1	1	1	1
88	29033	Benzoic acid, 3-[cyano[[[diethoxyphosphinothioyl)oxy]imino]methyl]-, methyl ester	25	2	2	3	-
89	27497	Benzoic acid, 3-[cyano[[[diethoxyphosphinothioyl)oxy]imino]methyl]-, methyl ester	25	1	2	-	-
90	27955	Benzoic acid, 4-[[[[(dimethoxyphosphinyl)thio]acetyl]methylamino]carbonyl]oxy]-, methyl ester	25	2	2	3	2
91	70349	Benzoic acid, 4-[(1,5-dimethylhexyl)oxy]-, methyl ester	25	1	1	1	1
92	27748	Benzoic acid, 2-[[ethoxy[(1-methylethyl)amino]phosphinothioyl]oxy]-, 1-methylethyl ester	25	3	3	4	4
93	27780	Benzoic acid, 3-methoxy-, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20	1	1	1	1
94	27778	Benzoic acid, 4-methoxy-, (5-chloro-2-(dimethylamino)phenyl) (2-methylphenyl)methyl ester	⁴ 20	-	-	1	-
95	27792	Benzoic acid, 2-methoxy-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	⁴ 10 20 10	1 - -	1 - -	- 1 -	- - 1

96	27793	Benzoic acid, 3-methoxy-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	25 20	1 -	1 -	- 1	1 -
97	27773	Benzoic acid, 2-methyl-, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20 25	2 -	2 -	- 1	2 -
98	27777	Benzoic acid, 3-methyl-, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20	1	2	1	1
99	27788	Benzoic acid, 2-methyl-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	20	1	1	1	1
100	27789	Benzoic acid, 3-methyl-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	25 20	1 -	1 -	- 1	1 -
101	27860	Benzonitrile, 4-[[ethyl[(1-methylethylidene)amino]oxy]phosphinothioyl]oxy]-	20	4	3	4	3
102	27850	Benzonitrile, 2-(1-methylethyl)-4-[(methylsulfonyl)oxy]-	25 20	4 -	4 -	- 4	- 4
103	27125	2H-1-benzopyran-3-acetic acid, 7-[(diethoxyphosphinothioyl)oxy]- α , 4-dimethyl-2-oxo-, ethyl ester	25	3	4	-	-
104	27126	2H-1-benzopyran-3-acetic acid, 7-[(diethoxyphosphinothioyl)oxy]-4-methyl-2-oxo-, ethyl ester	25 20	4 -	4 -	- 3(4)	- -
105	27124	2H-1-benzopyran-3-acetic acid, 7-[(diethoxyphosphinothioyl)oxy]-4-methyl-2-oxo-, methyl ester	25	3	4	-	-
106	133	[1]Benzopyrano[3,4-b]furo[2,3-h][1]benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, [2R-(2 α ,6 α ,12 α)]-	³ 5 ⁶ 60	2 -	2 -	2 1	- -
107	27906	Benzothiazole, 2-(methylsulfonyl)-6-nitro-	⁴ 10 20	1 -	- -	1 -	- 1
108	27402	β -alanine, N-phenyl-, hydrazide	⁴ 10	2	2	-	-
109	23393	Bicyclo[2.2.1]hept-2-ene, 5-(bromomethyl)-1,2,3,4,7,7-hexachloro-	20	3	3	2	-
110	27053	Bicyclo[2.2.1]hept-2-ene, 1,2,3,4,7,7-hexachloro-5,6-bis(chloromethyl)-	25	2	-	-	-
111	27256	Bicyclo[2.2.1]hept-2-ene, 1,2,3,4,7,7-hexachloro-5-(2,2,3,3-tetrafluorocyclobutyl)-	25	2	3	-	-
112	27301	Bicyclo[2.2.1]heptan-2-one, 3-methyl-3-nitro-, O-[(methylamino)carbonyl]oxime	⁴ 20 20	2 2	2 -	- -	- -

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>	
113	9735	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-, chlorinated to contain 67-69% chlorine	³ 61	2	2	2	2
114	25875	Bicyclo[2.2.1]heptane, pentachloro-3-(2,2-dichlorocyclopropyl)-2,2-dimethyl-	25	2	2	-	-
115	27135	[1,1'-Biphenyl]-3-carboxamide, 5-chloro-N-(2,5-dichlorophenyl)-2-hydroxy-	⁶ 70 20	1	1	-	-
116	27136	[1,1'-Biphenyl]-3-carboxamide, 5-chloro-N-(3,4-dichlorophenyl)-2-hydroxy-	³ 3 lb/gal	1	1	-	-
117	27137	[1,1'-Biphenyl]-3-carboxamide, 5-chloro-2-hydroxy-N-(2,4,5-trichlorophenyl)-	⁶ 75	1	1	-	-
118	27139	[1,1'-Biphenyl]-3-carboxamide, 4',5-dichloro-N-(4-chlorophenyl)-2-hydroxy-	³ 3 lb/gal	1	1	-	-
119	29189	[1,1'-Biphenyl]-2,2'-diol, 3,3',5,5'-tetrabromo-, mono(dihydrogen phosphate), monohydrate	20 25	1	1	-	-
120	27476	Butanedioic acid, [(diethoxyphosphinothioyl)thio]-, bis[(methylthio)methyl] ester	25	2	3	-	3
121	25621	Butanedioic acid, 2,2-bis[(dimethoxyphosphinothioyl)thio]-, diethyl ester	25	1	1	-	-
122	17034	Butanedioic acid, [(dimethoxyphosphinothioyl)thio]-, diethyl ester	20 ³ 50 25	-	-	-	1
123	27188	Butanedioic acid, [[methyl(propylthio)phosphinothioyl]thio]-, diethyl ester	25	2	2	-	-
124	27215	Butanoic acid, 2-chloro-, 2-(1-methylpropyl)-4,6-dinitrophenyl ester	25	2	1	-	-
125	20852	Butanoic acid, 2,2,2-trichloro-1-(dimethoxyphosphinyl)ethyl ester	25	1(2)	2	2	1
126	27913	2-Butanone, 3,3-dimethyl-, O-[ethyl(3-methyl-4-nitrophenoxy)phosphinothioyl]oxime	20 25 ⁴ 10	-	-	-	3

127	27851	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl]oxime	25 20	2 -	2 -	3 -	- 3
128	27429	2-Butenethioic acid, S-phenyl ester	25	1	1	-	-
129	27740	2-Butenoic acid, 4-bromo-3-[(dimethoxy=phosphinyl)oxy]-, methyl ester	25	1	1	2	-
130	25513	2-Butenoic acid, 3-[[[(2,4-dichlorophenoxy)ethoxy=phosphinyl]oxy]-, methyl ester	25	-	4	-	-
131	25512	2-Butenoic acid, 3-[(diethoxyphosphinyl)oxy]-, 1-(4-chlorophenyl)ethyl ester	25	-	2(3)	-	-
132	27754	2-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-, 1-ethyl-1-methyl-2-propynyl ester	25	2	2	3	2
133	27752	2-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-, 2-methoxy-1-methylethyl ester	25	2	2	3	2
134	27483	2-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-, 1-[4-(methylsulfonyl)phenyl]ethyl ester	20	1	2	-	1
135	27451	2-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-, 1-[4-(methylthio)phenyl]ethyl ester	25	2	2	-	2
136	24717	2-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-, 1-phenylethyl ester, (E)-	25 34 lb/gal	2(3) 2	4 4	3 3	2 -
137	27989	2-Butenoic acid, 3-[[[(ethylamino)methoxy=phosphinothioyl]oxy]-, 1-methylethyl ester, (E)-	25	4	4	4	3
138	27755	2-Butenoic acid, 3-[[[(ethylamino)methoxy=phosphinyl]oxy]-, methyl ester, (E)-	25	3	2	3	2
139	27945	2-Butenoic acid, 3-[[[ethyl(ethylthio)=phosphinothioyl]oxy]-, methyl ester	25	2	2	2	2
140	27993	2-Butenoic acid, 3-[[[ethyl[(1-methylpropyl)thio]=phosphinothioyl]oxy]-, methyl ester, (Z)-	25	3	3	3	2
141	27756	2-Butenoic acid, 3-[[methoxy(propylamino)=phosphinyl]oxy]-, ethyl ester, (E)-	25	3	2	3	2
142	27753	2-Butenoic acid, 3-[[methoxy(propylamino)=phosphinyl]oxy]-, 1-methylethyl ester, (E)-	25	3	2	3	3
143	27781	Butenoic acid, 3-methyl-, [5-chloro-2-(dimethylamino)=phenyl] (2-methylphenyl) methyl ester	25 20	1 -	2 -	- 1	1 -
144	27262	Carbamic acid, acetylmethyl-, 2-chloro-4,5-dimethylphenyl ester	25	1	1	-	-
145	27468	Carbamic acid, acetylmethyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	25	1	3	3	2
146	27263	Carbamic acid, acetylmethyl-, 4-(dimethylamino)-3,5-dimethylphenyl ester	25	1	2	-	-

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
147	27264	Carbamic acid, acetyl-methyl-, 3-(1,1-dimethylethyl)phenyl ester	25	1	2(3)	-	-
148	27968-X	Carbamic acid, acetyl-methyl-, 3-(1-methylethyl)phenyl ester (60%), mixture with 4-(1-methylethyl)phenyl acetyl-methylcarbamate (40%)	25	1	1	1	1
149	25968	Carbamic acid, butyl-, 2-[[[(dimethoxy=phosphinothioyl)thio]methyl]thio]ethyl ester	25	2(4)	2	3	-
150	27750	Carbamic acid, (chloroacetyl)methyl-, 4-(dimethylamino)-3,5-dimethylphenyl ester	20	2	2	3	-
151	27457	Carbamic acid, (chloroacetyl)methyl-, 3-(1,1-dimethylethyl)phenyl ester	25	3	2	-	1(2)
152	27334	Carbamic acid, (chloroacetyl)methyl-, 3-(1-methylethyl)phenyl ester	25	2	3	-	-
153	27456	Carbamic acid, (chloroacetyl)methyl-, 3-methylphenyl ester	10 20	2 -	2 -	- -	- 2
154	27783	Carbamic acid, (3-chloro-2,6-dimethoxy=benzoyl)methoxy-, ethyl ester	20	2	2	2	2
155	27790	Carbamic acid, (3-chloro-2,6-dimethoxy=benzoyl)methoxy-, 1-methylethyl ester	25 20	2 -	2 -	- 1	2 -
156	27636	Carbamic acid, (4-chlorophenyl)-, 2-butynyl ester	⁴ 10 20	- -	2 -	3 2	- 2
157	27995	Carbamic acid, (4-chlorophenyl)-, 1-methyl-2-propynyl ester	20	3	3	3	3
158	27459	Carbamic acid, (dichloroacetyl)methyl-, 3-(1,1-dimethylethyl)phenyl ester	25	2	2	-	2
159	27455	Carbamic acid, (dichloroacetyl)methyl-, 3-(1-methylethyl)phenyl ester	25	2	2	-	1
160	27981	Carbamic acid, [(dichlorofluoromethyl)thio]methyl-, 2-(1-methylethoxy)phenyl ester	³ 50	4	-	4	3
161	27772	Carbamic acid, (3,6-dichloro-2-methoxybenzoyl)methoxy-, ethyl ester	20	2	2	2	2

162	70449	Carbamic acid, (3,4-dichlorophenyl)-, 1-methylethyl ester	20	1	1	2	1
163	27996	Carbamic acid, (3,4-dichlorophenyl)-, 1-methyl-2-propynyl ester	20	-	2	2	2
164	27404-X	Carbamic acid, [[[(diethoxyphosphinothioyl)thio]=acetyl]methyl-, ethyl ester	³ 68	3	3	4	2
165	25802	Carbamic acid, [2-[(diethoxyphosphinothioyl)=thio]ethyl]-, ethyl ester	25	3(4)	3(4)	3	-
166	25774	Carbamic acid, [2-[(diethoxyphosphinyl)thio]=ethyl]-, ethyl ester	25	3	4	-	-
167	27706	Carbamic acid, [[(dimethoxyphosphinothioyl)thio]=acetyl]methyl-, 4-(1,1-dimethylethyl)phenyl ester	20	3	2	3	3
168	27348	Carbamic acid, [[(dimethoxyphosphinothioyl)thio]=acetyl]methyl-, 3-(1-methylethyl)phenyl ester	25 20	3 -	2 -	2 2	2 -
169	27460	Carbamic acid, [[(dimethoxyphosphinothioyl)thio]=acetyl]methyl-, 2-methylphenyl ester	25	2	3	4	2
170	27954	Carbamic acid, [[(dimethoxyphosphinothioyl)thio]=acetyl]methyl-, phenyl ester	20 25	2 -	2 -	- 4	- 2
171	25801	Carbamic acid, [2-[(dimethoxyphosphinothioyl)=thio]ethyl]-, ethyl ester	25	2	2	-	-
172	27376	Carbamic acid, dimethyl-, benzo[b]thien-4-yl ester	20	2	2	-	-
173	25664	Carbamic acid, dimethyl-, 2-[(diethoxy=phosphinothioyl)oxy]ethyl ester	25	3	3	-	-
174	25992	Carbamic acid, dimethyl-, 1-[(dimethylamino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester	25 20	1 -	- 1	- -	- -
175	27624	Carbamic acid, dimethyl-, 2-(1,3-dithiolan-2-yl)phenyl ester	25	2	2	3	2
176	27392	Carbamic acid, [2,6-dimethyl-4-[[[(methylamino)=carbonyl]oxy]phenyl]-, methyl ester	⁴ 10	1	1	-	-
177	29036	Carbamic acid, dimethyl-, 2-methyl-4-(1-methylpropyl)-5-thiazolyl ester	25	1(2)	2	2	-
178	17588	Carbamic acid, dimethyl-, 3-methyl-1-phenyl-1H-pyrazol-5-yl ester	25	1(2)	2	-	-
179	19059	Carbamic acid, dimethyl-, 6-methyl-2-propyl-4-pyrimidinyl ester	25	1	1	1	1
180	27734	Carbamic acid, dimethyl-, 5-quinolinyl ester	25 ³ 25	1 -	1 -	2 -	- 1

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
181	70053	Carbamic acid, dimethyl-, 2,3,4,6-tetrachlorophenyl ester	⁴ 10	1	1	1	1
182	25969	Carbamic acid, ethyl-, 2-[[[(dimethoxy=phosphinothioyl)thio]methyl]thio]ethyl ester	25	2	2	-	-
183	27179	Carbamic acid, ethyl-, 2-[[[methoxy(1-methylethoxy)=phosphinothioyl]thio]methyl]thio] ethyl ester	25	3	3	-	-
184	27350	Carbamic acid, (methoxy acetyl)methyl-, 2-(1-methylethoxy)phenyl ester	25	3	2	-	-
185	27723	Carbamic acid, [[(methoxymethylphosphinothioyl)=thio]acetyl]methyl-, methyl ester	25	3	2	3	2
186	29294	Carbamic acid, [methoxy(methylthio)phosphinyl]-, [1,1'-biphenyl]-2-yl ester	20	-	-	-	3
187	29293	Carbamic acid, [methoxy(methylthio)phosphinyl]-, [1,1'-biphenyl]-4-yl ester	20	-	-	-	3
188	29292	Carbamic acid, [methoxy(methylthio)phosphinyl]-, 4-methoxyphenyl ester	20	-	-	-	3
189	27942	Carbamic acid, (2-methoxy phenyl)-, 5-methyl-2-(1-methylethyl)phenyl ester	25 20	1 -	1 -	2 1	- 1
190	27393	Carbamic acid, [4-[[[(methylamino)carbonyl]oxy]-2-(1-methylethyl)phenyl]-, methyl ester	⁴ 10	1	2	-	-
191	27041	Carbamic acid, methyl-, benzo[b]thien-4-yl ester	⁶ 50 ⁶ 25 20	1 - -	- 2 -	- - 2	- - -
192	27156	Carbamic acid, methyl-, 2-[bis(methylthio)=methyl]phenyl ester	³ 2 lb/gal	1	1	-	-
193	25916	Carbamic acid, methyl-, 3-(butoxymethoxy)phenyl ester	25 20	1 -	- 1	- -	- -
194	25911	Carbamic acid, methyl-, 2-chloro-5-(1,1-dimethylethyl)phenyl ester	20	2	3	-	-
195	25736	Carbamic acid, methyl-, 2-chloro-4,5-dimethylphenyl ester	⁶ 75	2	1	-	-

196	27638	Carbamic acid, methyl-, 3-[[(2-chloroethyl)= carbonyl]amino]phenyl ester	⁴ 10 20	- -	1 -	1 1	- -
197	27128	Carbamic acid, methyl-, 2-chloro-5-(1- methylpropyl)phenyl ester	25 20	- 3	1 -	- -	- -
198	27397	Carbamic acid, methyl-, 4-(cyanomethyl)phenyl ester	⁴ 10	2	2	-	-
199	27214	Carbamic acid, methyl-, 2-(2-cyclopenten-1- yl)phenyl ester	20 ⁴ 25	2 3	3 2	- -	- -
200	27213	Carbamic acid, methyl-, 2-cyclopentylphenyl ester	20 ⁴ 25	3 3	4 3	- -	- -
201	27630	Carbamic acid, methyl-, 3-[(cyclopropyl= carbonyl)amino]phenyl ester	⁴ 10	1	1	1	1
202	25659	Carbamic acid, methyl-, 2-[(diethoxy= phosphinothioyl)thio]ethyl ester	25	3	4	-	4
203	27984	Carbamic acid, methyl-, 3,5-diethylphenyl ester	20	1	1	2	2
204	27164	Carbamic acid, methyl-, 2,3-dihydro-2,2- dimethyl-7-benzofuranyl ester	25 20	2 -	- 4	- 4	- 3
205	27524	Carbamic acid, methyl-, 2,3-dihydro-1,1- dimethyl-1H-inden-4-yl ester	20	-	2	-	-
206	25658	Carbamic acid, methyl-, 2-[(dimethoxy= phosphinothioyl)thio]ethyl ester	25 20	2(3) -	- 1	- -	- -
207	25967	Carbamic acid, methyl-, 2-[[[(dimethoxy= phosphinothioyl)thio]methyl]thio]ethyl ester	25 20	2 -	- 2	- -	- -
208	25766	Carbamic acid, methyl-, 4-(dimethylamino)-3,5- dimethylphenyl ester	25 ³ 23	- 2(3)	3 -	- 3(4)	- 2
209	27338	Carbamic acid, methyl-, 4-(dimethylamino)-5- methyl-2-(1-methylethyl)phenyl ester	25 20	3 -	3 -	- 2	- -
210	25784	Carbamic acid, methyl-, 4-(dimethylamino)-3- methylphenyl ester	⁴ 25	2	2	-	-
211	27466	Carbamic acid, methyl-, 2-(dimethylamino)phenyl ester	20	2	1	2	1
212	27695	Carbamic acid, methyl-, 2,2-dimethyl-1,3- benzodioxol-4-yl ester	⁴ 10	2	2	3	2

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² ---			
				<i>annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
213	27907	Carbamic acid, methyl-, 4,5-dimethylbenzo[b]thien-7-yl ester	20 410	1	-	-	1
214	27410	Carbamic acid, methyl-, 2-(4,5-dimethyl-1,3-dioxolan-2-yl)phenyl ester	410	-	2	2	-
215	27969	Carbamic acid, methyl-, 3,5-dimethyl-4-(methyl-2-propynylamino)phenyl ester	20	1	2	3	3
216	29146	Carbamic acid, methyl-, 3,5-dimethyl-4-(phenylthio)phenyl ester	20 25	1	1	1	-
217	27389	Carbamic acid, methyl-, 2-(1,3-dioxolan-2-yl)phenyl ester	410	2	2	-	-
218	29007	Carbamic acid, methyl-, 2-[(ethylthio)methyl]=phenyl ester	25	1(2)	2	2	2
219	27639	Carbamic acid, methyl-, 3-(formylamino)phenyl ester	410 20	-	2	2	-
220	27157	Carbamic acid, methyl-, 2-[1-(methoxymethyl)-2-propenyl]phenyl ester	32 lb/gal	2	2	-	-
221	27384	Carbamic acid, methyl-, 7-methylbenzo[b]thien-4-yl ester	410	1	3	-	-
222	27127-X	Carbamic acid, methyl-, 3-(1-methylbutyl)phenyl ester, mixture with 3-(1-ethylpropyl)phenyl methylcarbamate	25 20	-	2	-	-
223	27564	Carbamic acid, methyl-, 2-(4-methyl-1,3-dioxolan-2-yl)phenyl ester	20	2	2	3	2
224	27300	Carbamic acid, methyl-, 3-methyl-5-(1-methyl-ethyl)phenyl ester	10 20	2	3	-	-
225	27475	Carbamic acid, methyl-, 4-methyl-3-(1-methyl-propyl)phenyl ester	10 20	2	3	3	-
226	27212	Carbamic acid, methyl-, 2-(1-methylpropyl)=phenyl ester	625	3	3	-	-

227	27701	Carbamic acid, methyl-, 2-(methyl-2-propynylamino)phenyl ester	²⁰ ₁₀	2	2	-	3	-	2(3)
228	27557	Carbamic acid, methyl-, 2-methyl-8-quinoliny1 ester, sulfate (1:1)	²⁵ ₁₀	-	-	-	2	-	1
229	27173	Carbamic acid, methyl-, 2-[3-(methylthio)propyl]phenyl ester	25	2	2	-	-	-	-
230	27917	Carbamic acid, methyl-, 2-(methylthio)-3-pyridiny1 ester	²⁰ ₁₀	1	1	-	1	1	-
231	23969	Carbamic acid, methyl-, 1-naphthaleny1 ester	⁶ ₃₀ ⁶ ₅₀ ⁶ ₉₅ ⁴ ₂₀	1(2)	2	-	-	-	-
232	27347	Carbamic acid, methylnitroso-, 3-(1-methylethyl)phenyl ester	25	1	1	-	-	-	-
233	27975-X	Carbamic acid, methyl(1-oxopropyl)-, 3-(1-methylethyl)=phenyl ester (60%), mixture with 4-(1-methylethyl)=phenyl methyl(1-oxopropyl)carbamate (40%)	25	2	2	2	2	2	1
234	27727	Carbamic acid, methyl-, 3-(2-oxo-1-pyrrolidiny1)phenyl ester	⁴ ₁₀	1	-	1	1	1	1
235	27352	Carbamic acid, methyl(phenoxycetyl)-, 2-(1-methylpropyl)phenyl ester	²⁰ ²⁵	2	2	2(4)	2	-	-
236	27704-X	Carbamic acid, methyl(phenylthio)-, 3-(1-methyl=propyl)phenyl ester (58%), mixture with 4- and 2-(1-methylpropyl)phenyl esters (29% and 5%, respectively)	²⁵ ²⁰	1	2	2	2	-	4
237	27109	Carbamic acid, methyl-, 4-(di-2-propenylamino)-3,5-dimethylphenyl ester	25	1(2)	3	-	-	-	-
238	27640	Carbamic acid, methyl-, 3-[(2-propenylcarbonyl)amino]phenyl ester	⁴ ₁₀ ²⁰	-	1	1	1	-	-
239	27637	Carbamic acid, methyl-, 3-[(propylcarbonyl)=amino]phenyl ester	⁴ ₁₀ ²⁰	-	1	1	1	-	1
240	27702	Carbamic acid, methyl-, 4-(di-2-propynylamino)-3,5-dimethylphenyl ester	²⁰ ⁴ ₁₀	1	2	-	-	-	2(3)

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
241	27703	Carbamic acid, methyl-, 4-(di-2-propynylamino)-3-methylphenyl ester	20 410	1	1	-	1
242	27458	Carbamic acid, methyl(trichloroacetyl)-, 3-(1,1-dimethylethyl)phenyl ester	25	2	2	-	2
243	27454	Carbamic acid, methyl(trichloroacetyl)-, 3-(1-methylethyl)phenyl ester	25	1	2	-	1(2)
244	27982	Carbamic acid, methyl[(trichloromethyl)thio]-, 2-(1-methylethoxy)phenyl ester	650	2	3	3	3
245	27657	Carbamic acid, methyl-, 3-[(trifluoroacetyl)amino]phenyl ester	410 20	-	1	1	-
246	25843	Carbamic acid, methyl-, 3,4,5-trimethylphenyl ester	410	2	2	2	-
247	27905	Carbamic acid, [1,2-phenylenebis(imino=carbonothioyl)]bis-, dimethyl ester	410 20	1	-	2	-
248	29215	Carbamidithioic acid, <u>N,N'</u> -diheptyl-, ethyl ester	25	2	3	2	2
249	29214	Carbamidithioic acid, <u>N,N'</u> -diheptyl-, ethyl ester, monohydrobromide	25	3	3	2	1
250	70681	Carbamothioic acid, [2-[(cyclopentylthio)carbonyl]=amino]ethyl-, <u>S</u> -cyclopentyl ester	20	-	-	-	1
251	27775	Carbamothioic acid, (3,6-dichloro-2-methoxybenzoyl)methoxy-, <u>S</u> -ethyl ester	20 10	2	-	1	1
252	29108	Carbamothioic acid, [(diethoxyphosphinothioyl)=thio]acetyl-, <u>S</u> -ethyl ester	25	2	2	1	1
253	27573	Carbamothioic acid, <u>S,S'</u> -[2-(dimethylamino)-1,3-propanediyl] ester, monohydrochloride	25 20 410	-	-	-	2
254	70563	Carbamothioic acid, ethyl[2-[[[(2-methylpropyl)thio]=carbonyl]amino]ethyl]-, <u>S</u> -(2-methylpropyl) ester	25	1	1	1	1
255	29011	Carbonic acid, 2-(1,1-dimethylethyl)-4,6-dinitrophenyl 2-fluoroethyl ester	20	2(3)	2	2	2

256	27244	Carbonic acid, 1-methylethyl 2-(1-ethylpropyl)-4,6-dinitrophenyl ester	25	1(2)	2	2	1
257	27856	Carbonimidodithioic acid, cyano-, (diethoxyphosphinothioyl)methyl 2-propenyl ester	25	2	2	2	2
258	27976	Carbonimidodithioic acid, [(methylamino)carbonyl]oxy]-, O, S-dimethyl ester	20	2	2	2	1
259	70052	Carbonodithioic acid, O-butyl S-(4-nitrophenyl)-2-oxoethyl ester	25 20	- -	- -	- 1	1 -
260	27190	Carbonodithioic acid, O-butyl S-(phenylmethyl) ester	25	1	1	-	-
261	70054	Carbonodithioic acid, S-(4-nitrophenyl)-2-oxoethyl O-propyl ester	20	-	-	1	1
262	7796	Cyclohexane, 1,2,3,4,5,6-hexachloro-, γ-isomer (1α, 2α, 3β, 4α, 5α, 6β)-	20 3 20 6 25	- 3(4) -	4 - -	3 - 2	4 - -
263	27782	Cyclohexanecarboxylic acid, [5-chloro-2-(dimethylamino)phenyl] (2-methylphenyl)methyl ester	20	1	1	1	1
264	27791	Cyclohexanecarboxylic acid, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	25 20	1 -	1 -	- 1	- -
265	27538	Cyclohexanone, 2-methyl-5-(1-methylethyl)-	25	1	1	-	-
266	27304	Cyclohexanone, 2-methyl-2-nitro-, O-[(methylamino)carbonyl]oxime	25 20	2 1	2 2	- -	- -
267	27537	2-Cyclohexen-1-one, 6-methyl-3-(1-methylethyl)-	25	1	-	-	-
268	29105	1-Cyclohexene-1-carboxamide, N-(4-chlorophenyl)-2-hydroxy-6-oxo-	20	2	2	3	2
269	27462	1-Cyclopentene-1-carboxylic acid, 2-[(dimethoxyphosphinyl)oxy]-, methyl ester	25	1	2	2	1
270	27985	Cyclopropanecarboxylic acid, 3-(cyclopentylidenemethyl)-2,2-dimethyl-, (5-(phenylmethyl)-3-furanyl)methyl ester	25	2(3)	2	3(4)	2
271	29279	Cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (S)-[cyano(3-phenoxymethyl)methyl] ester, cis-(+)-	20	-	-	4	4
272	29297	Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, (±)-[cyano(3-phenoxymethyl)methyl] ester, cis-(±)-	25	3	-	4	3

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
273	29295	Cyclopropanecarboxylic acid, 3-(2,2-dichloro=ethenyl)-2,2-dimethyl-, (±)-[cyano(3-phenoxy=phenyl)methyl] ester, <u>cis,trans</u> -(±)-	25	3	3	4	3
274	29296	Cyclopropanecarboxylic acid, 3-(2,2-dichloro=ethenyl)-2,2-dimethyl-, (3-phenoxyphenyl)=methyl ester, <u>cis</u> -(±)-	25	4	3	4	2
275	29158	Cyclopropanecarboxylic acid, 3-(2,2-dichloro=ethenyl)-2,2-dimethyl-, (3-phenoxyphenyl)=methyl ester, <u>cis,trans</u> -(±)-	25	4	4	4	2
276	29117	Cyclopropanecarboxylic acid, 3-[(dihydro-2-oxo-3(2H)-thienylidene)methyl]-2,2-dimethyl-, [5-(phenylmethyl)-3-furanyl]methyl ester, <u>cis</u> -(E)-(+)--	25	3	3	4	2
277	29084	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (Z)-3-chloro-4-phenyl-2-butenyl ester, <u>cis,trans</u> -(±)-	25	1	1	2	1
278	27944	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (2,4-dimethylphenyl)=methyl ester, <u>trans</u> -(+)-	25	1	1	1	1
279	27339	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester	20	1	2	2	-
280	29024	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (+)-2-methyl-4-oxo-3-(2-propenyl)-2-cyclopenten-1-yl ester, <u>trans</u> -(+)-	25	2	3	4	2
281	29062	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (3-phenoxyphenyl)methyl ester	25	2	2	3	2
282	29063	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (3-phenoxyphenyl)=methyl ester, <u>cis,trans</u> -(+)-	25	-	-	3	2
283	27987	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (5-(phenylmethyl)-2-furanyl)methyl-, <u>cis</u> -(+)-	25	4	4	4	2
284	27662	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propenyl)-, (5-(phenylmethyl)-3-furanyl)methyl ester, <u>trans</u> -(+)-	25	2	2	3	2

285	27474	Cyclopropanecarboxylic acid, 3-(2-methyl-1-propenyl)-, [5-(phenylmethyl)-3-furanyl]methyl ester, <u>cis</u> , <u>trans</u> -(±)-	25 20	2(4) -	3 -	4 4	2 -
286	29234	Cyclopropanecarboxylic acid, 2,2,3,3-tetramethyl-, cyano(3-phenoxyphenyl)methyl ester	25	4	3	4	3
287	27532	1-Decanamine, <u>N</u> , <u>N</u> -diethyl-	25	1	1	-	-
288	27531	1-Decanamine, <u>N</u> , <u>N</u> -dimethyl-	25	1	2	-	-
289	27530	1-Decanamine, <u>N</u> -methyl-	25	2	2	-	-
290	23392	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,6,9,10,10-octachloro-1,4,4a,5,6,7,8,8a-octahydro-	20	3	3	-	-
291	32670	1,3-Dioxane, 2-(2-chlorophenyl)-5-methyl-5-propyl-	25	1	-	-	-
292	32673	1,3-Dioxane, 2-(4-chlorophenyl)-5-methyl-5-propyl-	25	1	-	-	-
293	29006	1,3,2-Dioxaphosphorinane, 2-chloro-5,5-diethyl-, 2-sulfide	25 20	2 -	2 -	2 -	2 2
294	29104	4H-1,3,2-Dioxaphosphorino[5,4-b]pyridine, 2-methoxy-6-methyl-, 2-sulfide	³ 20 20	- 2	- 1	4 -	- 2
295	27536	1,3,2-Dioxathiane, 4,6-dimethyl-, 2-oxide, (±)-	25	1	-	-	-
296	27535	1,3,2-Dioxathiane, 4,6-dimethyl-, 2-oxide, <u>meso</u> -	25	1	1	-	-
297	27738	Distannoxane, hexakis(2-methyl-2-phenylpropyl)-	⁴ 10 ⁴ 20	1 -	- 1	- 1	1 -
298	27274	Disulfide, butyl 1,2,2-trichloroethyl	25	2(3)	2(4)	-	-
299	27810	1,4-Dithiepan-6-one, O-[(methylamino) carbonyl]oxime	⁴ 10	1	1	2	2
300	27949	1,3-Dithiolane-2-carbohydrazonoyl chloride, <u>N</u> -[2-chloro-5-(trifluoromethyl)phenyl]-2-methyl-	⁴ 20 20	2 -	2 -	- 2	- 2
301	27660	1,3-Dithiolane-2-carboxaldehyde, 2-methyl-, O-[(methylamino)carbonyl]oxime	⁴ 10	-	2	2	2
302	70348	2-Dodecenoic acid, 7,11-dichloro-3,7,11-trimethyl-, ethyl ester, (E)-	25	-	-	2	2
303	70180	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-[4-[1-methyl-1-(4-methyl-3-cyclohexen-1-yl)ethoxy]butoxy]-	25	2	2	1	1
304	70280	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-[5-methyl-2-(1-methyl-2-ethoxy)cyclohexyl]oxy]-	25	1	1	1	1
305	70447	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-(naphthalenylloxy)-	25	-	1	1	1
306	70281	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-(9-octadecenylloxy)-	25	1	1	1	1
307	70179	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-(octadecylloxy)-	25	2	1	1	2
308	70182	Ethanamine, <u>N</u> , <u>N</u> -diethyl-2-[3-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]propoxy]- (crude)	25	1	1	1	1

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				annulatus	microplus	Anocentor nitens	Dermacentor albipictus
309	27915	Ethanesulfonic acid, 4-cyano-3-(1-methyl-ethyl)phenyl ester	25	3	3	3	3
310	27977	Ethanimidic acid, 2-[[ethoxy[(1-methylethyl)=amino]phosphinyl]thio]-N-methoxy-, methyl ester	25	2	2	2	1
311	27978	Ethanimidic acid, N-methoxy-2-[[methoxy[(1-methylethyl)amino]phosphinyl]thio]-, methyl ester	25	2	-	2	2
312	27553	Ethanimidic acid, N-[[[(methylamino)carbonyl]oxy]-, ethyl ester	10 20	2 -	2 -	- -	- 1
313	27411	Ethanimidothioic acid, N-[(aminocarbonyl)oxy]-, methyl ester	⁴ 10	1	1	-	-
314	27613	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, 2-cyanoethyl ester	⁴ 20 ⁴ 10	1 -	2 -	2 -	- 2
315	27519	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, cyanomethyl ester	20 10	1 -	1 -	1 -	- 1
316	27568	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, ethyl ester	20	1	2	-	1
317	27341	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester	25	1	1	-	-
318	27323	Ethanimidoyl chloride, N-(pentachlorophenyl)-	20 25	1 1	1 1	- -	- -
319	27728	Ethanesulfinothioic acid, 2,2-dichloro-, anhydrosulfide with O,O-dimethyl phosphorothioate	25	1	1	2	1
320	27835	Hydrazinecarboxylic acid, 2-[[[(dimethoxy=phosphinyl)thio]acetyl]-1-methyl-, methyl ester	25	2	2	3	2
321	29199	Imidazolidine, 1,3-bis(3-chlorophenyl)-2-(trichloromethyl)-	25	-	-	1	1
322	29198	Imidazolidine, 1,3-bis(3,5-dimethylphenyl)-2-(trichloromethyl)-	15 20 25	- 1 -	- 1 -	- 1 1	2 - -

323	29131	1H-Inden-1-one, 3-(acetyloxy)-2-(2,4,6-trimethylphenyl)-	20	4	3	4	3
324	29130	1H-Indene-1,3(2H)-dione, 2-(2,4,6-trimethylphenyl)-	20 10	- 3	- 2	- 3	2 -
325	70150	1H-Isoindole-1,3(2H)-dione, 2-(isothiocyanatomethyl)-	650	1	1	1	1
326	27470	Methanesulfonamide, 1,1-dichloro-N-[(dimethylamino)sulfonyl]-1-fluoro-N-(4-methylphenyl)-	20	2	1	-	1
327	29277	Methanesulfonamide, 1,1,1-trichloro-N-[[(4-chloro-2-methylphenyl)imino]methyl]-N-methyl-	25 20	- -	- 2	2 -	1 -
328	29276	Methanesulfonamide, 1,1,1-trichloro-N-[[(2,4-dimethylphenyl)imino]methyl]-N-methyl-	25 20	- 3	2 -	3 -	- -
329	25966	Methanesulfenothioic acid, tris(diethoxyphosphinyl)-, anhydrosulfide with thiocyanic acid	25	2	2	-	-
330	27846	Methanesulfonamide, 1-chloro-	680	1	1	1	1
331	27254	Methanesulfonamide, N-(4-chlorophenyl)-N-[(1,1,2,2-tetrachloro-2-fluoroethylthio)-N-methanimidamide, N-[[bis(phenylmethyl)amino]thio]-N'-(2,4-dimethylphenyl)-N-methyl-	20	-	-	3	2
333	29225	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N-[[bis(phenylmethyl)amino]thio]-N-methyl-	20	2	2	2	2
334	27335	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N,N-dimethyl-	25 350	3 3	3 2	3 3	- 2
335	29226	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N-[[[(2,4-dimethylphenyl)imino]methyl]=methylamino]thio]-N-methyl-	20 25	2 -	2 -	- 3	- 3
336	29319	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N-[(diphenylamino)thio]-N-methyl-	25	2	2	2	2
337	29005	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N-methyl-N-[(methylthio)methyl]-, monohydrochloride	410 420	3 -	2 -	- 2	2 -
338	29216	Methanimidamide, N'-(4-chloro-2-methylphenyl)-N-methyl-N-[(phenylamino)thioxomethyl]-	20 25	2 -	2 -	- 3	- 2
339	27567	Methanimidamide, N'-(4-chloro-2-methylphenyl)-, monohydrochloride	20 350	2 3	2 2	- -	- -

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
340	27567-X	Methanimidamide, N'-(4-chloro-2-methylphenyl)-, monohydrochloride (60%), mixture with N,N-dimethyl-N'-[3-[[[(methylamino)carbonyl]oxy]phenyl]methanimidamide monohydrochloride (30%)	690	2	2	-	-
341	27566	Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)carbonyl]oxy]phenyl]-, monohydrochloride	20	1	3	-	-
342	27305	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy]phenyl]-	20	2	-	-	-
343	27967	Methanimidamide, N'-(2,4-dimethylphenyl)-N-[[[(2,4-dimethylphenyl)imino]methyl]-N-methyl-	20 25	3 4	3	- 3(4)	- 3
344	29210	Methanimidamide, N,N'-dithiobis[N'-(4-chloro-2-methylphenyl)-N-methyl-	25	2	2	2(3)	2
345	29221	Methanimidamide, N,N'-thiobis[N'-(4-chloro-2-methylphenyl)-N-methyl-	20 25	1 -	2 -	3 -	- 3
346	29046	Methanimidic acid, N-[ethoxy(methylthio)phosphinyl]-, ethyl ester	25	3	2	3	2
347	29110	Methanimidic acid, N-[methoxy(methylthio)phosphinyl]-, methyl ester	25	2	2	2	2
348	25604	4,7-Methano-1H-indene, 1 (or 2),4,5,6,7,8,8-heptachloro-2,3,3a,4,7,7a-hexahydro-	⁴ 20 15	2 3	2 -	- -	- -
349	27005	4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-	25 20	1 -	- 1	- -	- -
350	25545	4,7-Methanoisobenzofuran, 1,3,4,5,6,7,8,8-octachloro-1,3,3a,4,7,7a-hexahydro-	25 ³ 15.1	4 -	- 4	- 4	- 4
351	27017	1,4-Methanonaphthalene, 1,2,3,4,9,9-hexachloro-1,4,4a,5,6,7,8,8a-octahydro-, chlorinated to contain approximately 72% chlorine	³ 25 25 20	- 3 -	- 3 3	3 - -	2 - -

352	27153	1,3,4-Metheno-1H-cyclobuta[cd]pentalen-2-ol,1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-2-methyl-	25	1	4	-	-	1
			20	-	-	1	1	
353	29224	4-Morpholinesulfenamide, N-[(4-chloro-2-methylphenyl)imino]methyl]-N-methyl-1-Naphthalene, 2-methyl-1-thiocyanato-	25	2	2	2	2	
354	27525	2,6-Nonadienoic acid, 3,7-dimethyl-9-(2,3,3-trimethyloxiranyl)-, ethyl ester	10	-	-	1	1	
355	70350	2,6-Nonadienoic acid, 7-ethyl-9-(3-ethyl-3-methyloxiranyl)-3-methyl-, methyl ester	25	1	1	1	1	
356	33972	2,6-Nonadienoic acid, 7-ethyl-9-(3-ethyl-3-methyloxiranyl)-3-methyl-, methyl ester	3 25	1	1	1	1	
357	70035	9-Octadecenamide, N,N-diethyl-	25	-	1	1	1	
358	70181	2,6-Octadien-1-amine, N-[2-(2-(diethylamino)ethoxy]-1,1-dimethylethyl)-N-(3,7-dimethyl-2,6-octadienyl)-3,7-dimethyl-, (E,E)-	25	1	1	1	1	
359	70283	2,6-Octadien-1-amine, N-[2-(2-(diethylamino)ethoxy)propyl]-N-(3,7-dimethyl-2,6-octadienyl)-3,7-dimethyl-	25	1	1	1	1	
360	70484-X	Octanamide, N,N-diethyl-, compound with butoxy polypropylene glycol	25	1	1	1	1	
361	28930	1-Oxa-4-azaspiro[4.5]decane, 4-acetyl-3-ethyl-1-	25	1	2	1	1	
362	28876	1-Oxa-4-azaspiro[4.5]decane, 4-benzoyl-	20	1	1	-	-	
363	27918	1,2,4-Oxadiazol-5-amine, 3-[2-(5-nitro-2-furanyl)ethenyl]-, (E)-	20 4 10	1	1	1	1	
364	28953	2H-1,3-Oxazine, 3-acetyl-2-(2,6-dimethyl-5-heptenyl)tetrahydro-	25	1	1	1	1	
365	28951	2H-1,3-Oxazine, 3-acetyl-2-(1-ethylpentyl)tetrahydro-	25	1	1	1	1	
366	28949	2H-1,3-Oxazine, 3-acetyl-2-(1-ethylpentyl)tetrahydro-	25	1	1	1	1	
367	28877	2H-1,3-Oxazine, 3-acetyl-2-(1-methylethyl)-	25	1	1	-	-	
368	28954	2H-1,3-Oxazine, 3-benzoyl-2-(2,6-dimethyl-5-heptenyl)tetrahydro-	25	1	1	1	1	
369	28952	2H-1,3-Oxazine, 3-benzoyl-2-(1-ethylpentyl)tetrahydro-	25	1	1	1	1	
370	28948	2H-1,3-Oxazine, 3-benzoyl-2-(1-methylethyl)-	20	1	1	1	1	
371	28928	Oxazolidine, 3-acetyl-2-(1,3-benzodioxol-5-yl)-	25	1	1	1	1	
372	28963	Oxazolidine, 3-acetyl-2-(2,6-dimethyl-5-heptenyl)-	25	1	1	1	1	
373	28927	Oxazolidine, 3-acetyl-4,4-dimethyl-2-phenyl-	20	1	1	1	1	
374	28926	Oxazolidine, 3-acetyl-4-ethyl-2-methyl-2-(3-methylbutyl)-	25	1	1	1	1	
375	28929	Oxazolidine, 3-acetyl-4-ethyl-2-phenyl-	20	1	1	1	1	
376	28867	Oxazolidine, 3-acetyl-2-methyl-2-(3-methylbutyl)-	25	1	1	-	-	
377	28868	Oxazolidine, 3-acetyl-2-phenyl-	25	1	1	-	-	
378	28875	Oxazolidine, 3-benzoyl-2-ethyl-2-methyl-	25	1	1	-	-	
379	28878	Oxazolidine, 3-benzoyl-4-ethyl-2-methyl-2-(3-methylbutyl)-	25	1	1	-	-	

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>	
380	28869	Oxazolidine, 3-benzoyl-2-methyl-2-(3-methylbutyl)-	25	1	1	-	-
381	28874	Oxazolidine, 3-benzoyl-2-methyl-2-(2-methylpropyl)-	25	1	1	-	-
382	28866	Oxazolidine, 3-benzoyl-2-phenyl-	25	1	1	-	-
383	28864	Oxazolidine, 3-butyl-2-phenyl-	25	1	1	-	-
384	70351	Oxirane, 2,2-dimethyl-3-[3-methyl-5-(2-propynloxy)-3-pentenyl]-	25	1	1	-	1
385	27463	3-Penten-2-one, 4-methyl-, O-[(methylamino)=carbonyl]oxime, (Z)-	20	1	2	-	1
386	27400	2-Pentenoic acid, 2,3,5,5,5-pentachloro-4-oxo-, (Z)-	25	2	3	-	-
387	27401	2-Pentenoic acid, 2,3,5,5,5-pentachloro-4-oxo-, phenyl ester	20	2	2	-	-
388	27994	Phenol, 2-bromo-4-chloro-6-nitro-	20 420 410	1 - -	1 - -	- 2 -	- - 1
389	27825	1H-Phosphole, 3-chloro-2,5-dihydro-1-methoxy-, 1-sulfide	350	-	-	1	3
390	29094	Phosphonamidithioic acid, N-[amino(phenyl=methylene)]-P-ethyl-, S-methyl ester	25	2	1	3	2
391	27641	Phosphonamidithioic acid, P-ethyl-, S-ethyl ester	20 410	2 2	1(2) -	3 -	2 2
392	27872	Phosphonic acid, phenyl-, 4-bromo-2,5-dichlorophenyl methyl ester	25	2	2	2	2
393	70005	Phosphonic acid, phenyl-, 1-methylpropyl 2-propenyl ester	25	1	1	2	1
394	27011	Phosphonic acid, [(phenyldithio)methylidene]tris-, hexaethyl ester	25	3(4)	4	-	-
395	19763	Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester	25 20	2 -	3 -	2 -	- 2
396	27729	Phosphonic acid, [(1,2,2-trichloroethyl)sulfinyl]-, diethyl ester	25	2	2	2	2
397	25831	Phosphonodithioic acid, (chloromethyl)-, S-(4-chlorophenyl) O-(1-methylethyl) ester	25 20	2 2	- 4	- -	- -

398	25835	Phosponodithioic acid, (chloromethyl)-, <u>O</u> -ethyl <u>S</u> -(4-methylphenyl) ester	25	2	3	-	-
399	25834	Phosponodithioic acid, (chloromethyl)-, <u>O</u> -(1-methylethyl) <u>S</u> -(4-methylphenyl) ester	25	3	4	4	-
400	25731	Phosponodithioic acid, ethyl-, <u>S</u> -[(2-benzothiazolylthio)methyl] <u>O</u> -ethyl ester	25	3	3	-	-
401	27747	Phosponodithioic acid, ethyl-, <u>S</u> -(2-bromo-2-chloroethyl) <u>O</u> -ethyl ester	25	2	2	2	-
402	27045	Phosponodithioic acid, ethyl-, <u>S</u> -(4-chloro-3-methylphenyl) <u>O</u> -ethyl ester	25	3	4	-	-
403	27309	Phosponodithioic acid, ethyl-, <u>S</u> -(4-chloro-3-methylphenyl) <u>O</u> -methyl ester	25	3	3	3	-
404	27632	Phosponodithioic acid, ethyl-, <u>S</u> -(4-chlorophenyl) <u>O</u> -(2-methylpropyl) ester	25 20	- -	4 4	- 4	4 -
405	25770	Phosponodithioic acid, ethyl-, <u>S</u> -[[(4-chlorophenyl)=thio]methyl] <u>O</u> -ethyl ester	25	3	4	-	-
406	27946	Phosponodithioic acid, ethyl-, <u>O</u> -cyclopentyl <u>S</u> -2-propynyl ester	25	3	2	4	2
407	27298	Phosponodithioic acid, ethyl-, <u>S</u> -[(2,4-dichlorophenoxy)methyl] <u>O</u> -ethyl ester	25 20	4 -	3 -	- 3	- -
408	27361	Phosponodithioic acid, ethyl-, <u>S</u> -[(2,4-dichlorophenoxy)methyl] <u>O</u> -propyl ester	25	4	4	4	-
409	27012	Phosponodithioic acid, ethyl-, <u>S</u> , <u>S</u> '-[(diethylamino)=carbonyl]methylene <u>O</u> , <u>O</u> ', <u>O</u> '-tetraethyl ester	25	3	3	3	3
410	27015	Phosponodithioic acid, ethyl-, <u>S</u> -[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl] <u>O</u> -(2-methylpropyl) ester	20	3	4	-	-
411	25765	Phosponodithioic acid, ethyl-, <u>S</u> -[4-(1,1-dimethylethyl)phenyl] <u>O</u> -ethyl ester	25	3	2	-	-
412	27251	Phosponodithioic acid, ethyl-, <u>S</u> -[4-(1,1-dimethylethyl)phenyl] <u>O</u> -methyl ester	25	2	2	-	-
413	27038	Phosponodithioic acid, ethyl-, <u>O</u> -ethyl <u>S</u> -[[(2-methylamino)-2-oxoethyl]thio]methyl ester	25	2	3	-	-
414	25713	Phosponodithioic acid, ethyl-, <u>O</u> -ethyl-, <u>O</u> -ethyl-, <u>S</u> -(4-methylphenyl) ester	25	3	4	4	-
415	27250	Phosponodithioic acid, ethyl-, <u>O</u> -methyl <u>S</u> -(4-methylphenyl) ester	25	4	3	-	-
416	27249	Phosponodithioic acid, ethyl-, <u>O</u> -methyl <u>S</u> -phenyl ester	25	4	4	3	-
417	27948	Phosponodithioic acid, ethyl-, <u>O</u> -(phenylmethyl) <u>S</u> -2-propynyl ester	25	3	4	4	-

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
418	27372	Phosphonodithioic acid, methyl-, O-benzo[b]thien-4-yl S-propyl ester	25	2	1	-	-
419	27406	Phosphonodithioic acid, methyl-, S-(4-chloro-3-methylphenyl) O-ethyl ester	20	3	4	-	-
420	27180	Phosphonodithioic acid, methyl-, S-[[(4-chloro=phenyl)thio]methyl] O-methyl ester	25	3	3	-	-
421	27185	Phosphonodithioic acid, methyl-, O-(2,4-dichlorophenyl) S-propyl ester	25	2	2	-	-
422	25995	Phosphonodithioic acid, methyl-, S-[2-(dimethylamino)-1-methyl-2-oxoethyl] O-methyl ester	25	3	-	-	-
423	25977	Phosphonodithioic acid, methyl-, O-methyl S-[(methylamino)carbonyl]methyl ester	25	3(4)	-	-	-
424	25961	Phosphonodithioic acid, methyl-, O-methyl S-phenyl ester	25	3(4)	4	3	-
425	27186	Phosphonodithioic acid, methyl-, O-phenyl S-propyl ester	25	3	3	-	-
426	27838	Phosphonodithioic acid, [2-(1-methylethoxy)=ethenyl]-, S,S-dipropyl ester	25	2	3	3	3
427	27839	Phosphonodithioic acid, [2-[(1-methylethyl)=thio]ethenyl]-, S,S-dimethyl ester	25	1	1	2	1
428	27730	Phosphonodithioic acid, 2-propenyl-, S,S-dipropyl ester	25	2	2	3	2
429	29203	Phosphonodithioic acid, propyl-, S-(2-benzoxazolymethyl) O-propyl ester	25	3	3	3	2
430	27227	Phosphonothioic acid, (chloromethyl)-, O-(4-cyano-2-methoxyphenyl) O-ethyl ester	⁴ 10	2	2	-	-
431	27028	Phosphonothioic acid, (chloromethyl)-, O-(4-cyanophenyl) O-ethyl ester	25	2	3	-	-
432	27373	Phosphonothioic acid, ethyl-, O-(4-bromo-2,5-dichlorophenyl) O-ethyl ester	25	2	3	-	-
433	27374	Phosphonothioic acid, ethyl-, O-(4-bromo-2,5-dichlorophenyl) O-methyl ester	25	2	2	-	-
434	27666	Phosphonothioic acid, ethyl-, O-[4-[[[(butylamino)=carbonyl]oxy]imino]methyl]phenyl] O-ethyl ester	25	2	3	3	3
435	27916	Phosphonothioic acid, ethyl-, O-(7-chloro-4-benzofurazanyl) O-ethyl ester	25	4	4	4	4
436	25869	Phosphonothioic acid, ethyl-, O-(2-chloroethyl) O-(4-cyanophenyl) ester	25	3(4)	4	3	4

437	27549	Phosphonothioic acid, ethyl-, O-[4-[[[(3-chlorophenyl)amino]carbonyl]oxy]imino]methyl]=phenyl] O-ethyl ester	20	-	3	3	-
438	25797	Phosphonothioic acid, ethyl-, O-(4-chloro=phenyl) O-propyl ester	25	2	3	-	-
439	27919	Phosphonothioic acid, ethyl-, O-(2,5-dichloro-4-iodophenyl) O-ethyl ester	25 20	3	3	-	3
440	27971	Phosphonothioic acid, ethyl-, O-[1-(2,4-dichlorophenyl)ethenyl] O-methyl ester	25	2	3	3	2
441	25725	Phosphonothioic acid, ethyl-, O-(2,4-dichlorophenyl) O-methyl ester	25	-	2	-	-
442	27575	Phosphonothioic acid, ethyl-, O-[2-[(diethylamino)methyl]-4-(methylthio)phenyl] O-ethyl ester	25	3	4	3	-
443	25712	Phosphonothioic acid, ethyl-, O-ethyl O-(2,4,5-trichlorophenyl) ester	25	2	3	-	-
444	29098	Phosphonothioic acid, methyl-, O-(4-bromo-2,5-dichlorophenyl) O-methyl ester	25	2	2	-	-
445	27375	Phosphonothioic acid, methyl-, O-(4-bromo-2,5-dichlorophenyl) O-(1-methylethyl) ester	20	3	2	-	-
446	27453	Phosphonothioic acid, methyl-, O-(4-bromo-2,5-dichlorophenyl) O-propyl ester	20 25	3	3	-	-
447	25785	Phosphonothioic acid, methyl-, O-(2-chloro-2-propenyl) O-(4-nitrophenyl) ester	25 20	4	4	-	3
448	25788	Phosphonothioic acid, methyl-, O-(4-chlorobutyl) O-[4-nitro-3-(trifluoromethyl)phenyl] ester	25	3	3	4	-
449	27033	Phosphonothioic acid, methyl-, O-(4-cyanophenyl) O-ethyl ester	25	4	4	4	-
450	27634	Phosphonothioic acid, methyl-, O-[2,5-dichloro-4-(methylthio)phenyl] O-ethyl ester	25	-	4	4	3
451	25714	Phosphonothioic acid, methyl-, O-(2,4-dichlorophenyl) O-ethyl ester	25	2(3)	2(4)	3	3
452	25635	Phosphonothioic acid, methyl-, O-(2,4-dichlorophenyl) O-methyl ester	25 350	2	3	4	3
453	27471	Phosphonothioic acid, methyl-, O-(3,4-dichlorophenyl) O-methyl ester	25	3	4	3	3
454	25614	Phosphonothioic acid, methyl-, O-ethyl O-[4-(ethylthio)phenyl] ester	25	-	4	-	-
455	25612	Phosphonothioic acid, methyl-, O-ethyl O-[4-(methylthio)phenyl] ester	25	4	4	4	4

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
456	27399	Phosphonothioic acid, methyl-, O-ethyl O-6-quinoliny1	20	4	4	4	-
457	25787	Phosphonothioic acid, methyl-, O-(4-nitrophenyl) O-phenyl ester	20 25	4 -	- 4	- -	2 -
458	25786	Phosphonothioic acid, methyl-, O-(4-nitrophenyl) O-propyl ester	25	-	4	-	-
459	27343	Phosphonothioic acid, phenyl-, O-(4-bromo-2,5-dichlorophenyl) O-ethyl ester	20 25	2 2	2 4	2 -	- -
460	27378	Phosphonothioic acid, phenyl-, O-(4-bromo-2,5-dichlorophenyl) O-methyl ester	20 3 lb/gal	2 -	2 -	- 2	2 -
461	25832	Phosphonothioic acid, phenyl-, O-(4-cyanophenyl) O-ethyl ester	25	3	3	-	-
462	29061	Phosphonothioic acid, phenyl-, O-ethyl O-(6-methyl-3-pyridinyl) ester	25	4	4	4	4
463	29093	Phosphonotrithioic acid, ethyl-, (1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl 1,1-dimethylethyl ester	20 25	2 -	2 -	4 -	- 3
464	29041	Phosphonotrithioic acid, ethyl-, (ethylthio)methyl 1-methylethyl ester	25	3	3	3	-
465	27970	Phosphoramidic acid, diethyl-, 2-chloroethenyl ethyl ester	25	2	2	2	1
466	25602	Phosphoramidic acid, methyl-, 2-chloro-4-(1,1-dimethylethyl)phenyl methyl ester	25 325	2 2	1 -	- -	2 -
467	27192	Phosphoramidic acid, methyl-, 2-chloro-4-(1,1-dimethylpropyl)phenyl methyl ester	25	2	3	-	-
468	27914	Phosphoramidic acid, methyl-, 2-(diethylamino)-6-methyl-4-pyrimidinyl methyl ester	20 410	2 -	2 -	- 2	2 -
469	29009	Phosphoramidic acid, methyl-, 2-(dipropylamino)-6-methyl-4-pyrimidinyl methyl ester	20 25	2 2	2 2	- 3	2 -

470	27572	Phosphoramidic acid, (1-methylethyl)-, ethyl 3-methyl-4-(methylthio)phenyl ester	20 25	3 -	4 -	3 3	- 3
471	27656	Phosphoramidic acid, (1-methylethyl)-, methyl 4-nitrophenyl ester	25 20	2 -	3 -	- 3	2 -
472	27731	Phosphoramidodithioic acid, methyl-, S,S-dipropyl ester	25	2	2	3	3
473	27732	Phosphoramidodithioic acid, (1-methylethyl)-, S,S-dimethyl ester	20	1	1	1	1
474	27822	Phosphoramidothioic acid, acetyl-, O,S-dimethyl ester	⁴ 10	3	2	3	2
475	27578	Phosphoramidothioic acid, (1-aminoethylidene)-, O,O-bis(4-bromophenyl) ester	⁴ 10 10	- 1	- 1	- 1	1 -
476	27579	Phosphoramidothioic acid, (1-aminoethylidene)-, O-(4-bromophenyl) O-methyl ester	⁴ 10 15 20	- - -	4 - -	- 4 -	- - 4
477	27580	Phosphoramidothioic acid, (1-aminoethylidene)-, O-(4-chlorophenyl) O-methyl ester	⁴ 10	-	4	4	3
478	27992	Phosphoramidothioic acid, (1-aminoethylidene)-, O,S-dimethyl ester	⁴ 10 ⁴ 20	2 -	2 -	- 2	2 -
479	27398	Phosphoramidothioic acid, O-ethyl S-methyl ester	⁴ 10 10	3 -	3 -	- -	- 3
480	27239	Phosphoramidothioic acid, [(2-hydroxyethyl)=methylamino]thioxomethyl-, O,O-dimethyl ester	25	2	3	-	-
481	27035	Phosphoramidothioic acid, [(2-hydroxypropyl)=methylamino]thioxomethyl-, O,O-dimethyl ester	20 25	3 -	- 3	- -	- -
482	27576	Phosphoramidothioic acid, methyl-, O-methyl O-[4-(methylthio)phenyl] ester	25	4	4	4	-
483	29100	Phosphoramidothioic acid, (1-methylethyl)-, O-ethyl S-[2-(methoxyimino)ethyl] ester	25	3	3	-	-
484	27979	Phosphoramidothioic acid, (1-methylethyl)-, O-ethyl S-[2-(methoxyimino)propyl] ester	25	3	3	2	2
485	27314	Phosphoramidothioic acid, (1-methylethyl)-, O-ethyl S-[2-(methoxymethyl)amino]-2-oxoethyl ester	25	2	2	-	-
486	27558	Phosphoramidothioic acid, (1-methylethyl)-, O-methyl O-(2,4,5-trichlorophenyl) ester	20	1	1	-	2

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
487	27823	Phosphoramidithioic acid, (1-oxopropyl)-, O,S-dimethyl ester	⁴ 10 20	3 -	3 -	- 3	- 2
488	27099	Phosphoric acid, 1-(4-bromo-2-chlorophenyl)-2-chloroethenyl dimethyl ester	25	-	3	-	-
489	27019	Phosphoric acid, 1-(2-bromo-4,5-dichlorophenyl)-2-chloroethenyl dimethyl ester	25	2(4)	3	-	-
490	27043	Phosphoric acid, 2-bromo-1-(2,4-dichlorophenyl)ethenyl dimethyl ester	25 ³ 1 lb/gal	3(4) -	2 -	- 3	- 2
491	27490	Phosphoric acid, butyl 2,2-dichloroethenyl methyl ester	25	1	2	-	-
492	25840	Phosphoric acid, 2-chloro-1-(2,4-dibromophenyl)ethenyl dimethyl ester	15 20	4 3	- 4	- -	- -
493	27020	Phosphoric acid, 2-chloro-1-(2,5-dibromophenyl)ethenyl dimethyl ester	20 25	3 2	3(4) -	- -	- -
494	24969	Phosphoric acid, 2-chloro-1-(2,4-dichlorophenyl)ethenyl diethyl ester	³ 4 lb/gal 25	4 -	4 -	- 4	4 -
495	24968	Phosphoric acid, 2-chloro-1-(2,5-dichlorophenyl)ethenyl diethyl ester	25	4	4	-	4
496	25818	Phosphoric acid, 2-chloro-1-(2,4-dichlorophenyl)ethenyl dimethyl ester	25 20	4 -	3 -	- 4	- -
497	27018	Phosphoric acid, 2-chloro-1-(2,5-dichlorophenyl)ethenyl dimethyl ester	20	3	2	-	-
498	29060	Phosphoric acid, 2-chloro-1-(2,4-dichlorophenyl)ethenyl ethyl methyl ester	25	4	4	4	3
499	25515	Phosphoric acid, 2-chloro-3-(diethylamino)-1-methyl-3-oxo-1-propenyl dimethyl ester	25	1	2	2	1
500	27358	Phosphoric acid, 2-chloro-3-(ethylamino)-1-methyl-3-oxo-1-propenyl dimethyl ester	⁴ 10 25	2 1	2 2	- -	- -

501	27357	Phosphoric acid, 2-chloro-1-methyl-3-(methylamino)-3-oxo-1-propenyl dimethyl ester	20 4 20 10	2 2 -	3 - 2	-
502	27743	Phosphoric acid, 2-chloro-1-(1H-pyrazol-1-yl)ethenyl diethyl ester	25 20	3 -	2 3	2 -
503	25842	Phosphoric acid, 2-chloro-1-(2,4,4,5-trichloro-phenyl)ethenyl diethyl ester	20 25 3 2 lb/gal	- 3 4 4	4 - -	4 - -
504	25841	Phosphoric acid, 2-chloro-1-(2,4,4,5-trichloro-phenyl)ethenyl dimethyl ester, (2)	20 3 2 lb/gal	- 3(4) 4	3 3	- 3
505	27119	Phosphoric acid, 2-chloro-1-(2,4,4,5-trichloro-phenyl)ethenyl ethyl methyl ester	25	4	4	-
506	27500	Phosphoric acid, 7-chlorobicyclo[3.2.0]hepta-2,6-dien-6-yl dimethyl ester	25	1	2	-
507	25816	Phosphoric acid, 1-[(4-chlorophenyl)thio]ethenyl dimethyl ester	25	2	1	-
508	25752	Phosphoric acid, 2-chloropropyl 1,2-dibromo-2,2-dichloroethyl ethyl ester	25	-	3	-
509	24988	Phosphoric acid, 1,2-dibromo-2,2-dichloroethyl dimethyl ester	25	1	2	-
510	25698	Phosphoric acid, 1,2-dibromo-2,2-dichloroethyl methyl phenyl ester	25	2	1	-
511	27840	Phosphoric acid, 2,2-dichloro-1-(2-cyanoethoxy)ethenyl diethyl ester	25	2	1	3
512	24967	Phosphoric acid, 2,2-dichloro-1-(2,5-dichloro-phenyl)ethenyl diethyl ester	25 350	4 -	4 -	- 4
513	27742	Phosphoric acid, 2,2-dichloro-1-(4,5-dimethyl-1H-pyrazol-1-yl)ethenyl diethyl ester	25	2	1	1
514	27741	Phosphoric acid, 2,2-dichloro-1-(1H-pyrazol-1-yl)ethenyl diethyl ester	25	2	1	2
515	20738	Phosphoric acid, 2,2-dichloroethenyl dimethyl ester	3 4 lb/gal	1(2)	1	1
516	27663	Phosphoric acid, 2,2-dichloroethenyl dimethyl ester, compound with calcium bis(2,2-dichloroethenyl) methyl phosphate (2:1)	20	1	1	1
517	27612	Phosphoric acid, diethyl 1,2-dihydro-6-methyl-2-oxo-1-(2-propenyl)-4-pyridinyl ester	25	3	3	2
518	25815	Phosphoric acid, diethyl 1-[(phenylmethyl)thio]ethenyl ester	25	2	2	-
519	25814	Phosphoric acid, diethyl 1-(phenylthio)ethenyl ester	25	2	1	-
520	27610	Phosphoric acid, 1,2-dihydro-1,6-dimethyl-2-oxo-4-pyridinyl dimethyl ester	25	2	1	4

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>	
521	27611	Phosphoric acid, 1,2-dihydro-6-methyl-2-oxo-1-propyl-4-pyridinyl dimethyl ester	20 25	4 -	- 4	- 1	
522	27129	Phosphoric acid, dimethyl 1-methyl-3-(methylamino)-3-oxo-1-propenyl ester, (E)-	25	3	4	3	
523	27744	Phosphoric acid, dimethyl 1,2,5-thiadiazol-3-yl ester	25	1	1	1	
524	27521	Phosphoric acid, dimethyl 3,5,6-trichloro-2-pyridinyl ester	20 25	- 1	1 -	2 -	
525	24482	Phosphoric acid, 3-(dimethylamino)-1-methyl-3-oxo-1-propenyl dimethyl ester, (E)-	20 25	2 2(4)	- 2(4)	- -	
526	27625	Phosphoric acid, 3-(methoxymethylamino)-1-methyl-3-oxo-1-propenyl dimethyl ester, (E)-	25	2	2	3	2
527	27031	Phosphoro(monothio)peroxy acid, O,O-diethyl SO-(2-methyl-3,5-dinitrophenyl) ester	25	1(2)	3	-	-
528	27653	Phosphorodithioic acid, S-[(3-acetyl-4,4-dimethyl-2,5-dioxo-3-imidazolidinyl)methyl] O,O-dimethyl ester	25	-	3	3	2
529	27652	Phosphorodithioic acid, S-[(3-acetyl-2,5-dioxo-1-imidazolidinyl)methyl] O,O-dimethyl ester	⁴ 10 20	-	3 -	3 -	- 2
530	27346	Phosphorodithioic acid, S-[2-(acetylamino)ethyl] O,O-dimethyl ester	25	2	3	-	-
531	27207	Phosphorodithioic acid, S-[acetyloxy)methyl] O,O-dimethyl ester	25	2	2	-	-
532	27046	Phosphorodithioic acid, S-[[[2-[(aminocarbonyl)oxy]ethyl]thio]methyl] O-methyl O-(1-methyl)ethyl ester	25 20	3(4) -	3(4) -	- 4	- 4
533	25873	Phosphorodithioic acid, S-[(2-benzothiazolyl=thio)methyl] O,O-diethyl ester	25	4	4	-	-
534	27070	Phosphorodithioic acid, S-[2,2-bis(ethylthio)propyl] O,O-diethyl ester	25	3(4)	4	4	3
535	27072	Phosphorodithioic acid, S-[2,2-bis(ethylthio)propyl] O,O-dimethyl ester	25	2	2	-	-

536	27310	Phosphorodithioic acid, <u>S</u> -[1,2-bis[(methoxy= methylamino)carbonyl]ethyl] <u>O</u> , <u>O</u> -dimethyl ester	25	3	2	-	-
537	29047	Phosphorodithioic acid, <u>O</u> , <u>O</u> -bis(1-methylethyl) ester, <u>S</u> -(tricyclohexylstannyl) derivative	25	1	2	-	2
538	27798	Phosphorodithioic acid, <u>S</u> -(2,2-bis(methylthio)propyl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	1	2	2
539	27269	Phosphorodithioic acid, <u>S</u> -(2-bromo-1-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	4	-	-
540	27268	Phosphorodithioic acid, <u>S</u> -(2-bromo-1-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl] <u>O</u> , <u>O</u> -dimethyl ester	20	3	4	-	-
541	27424	Phosphorodithioic acid, <u>S</u> -(2-butenyl <u>O</u> , <u>O</u> -dimethyl ester	25	1	2	2	1
542	29082	Phosphorodithioic acid, <u>S</u> -(6-chloro-3,4-dihydro-2H-1-benzothiopyran-4-yl) <u>O</u> , <u>O</u> -dimethyl ester	20 25	2 -	1 -	-	-
543	29081	Phosphorodithioic acid, <u>S</u> -(7-chloro-3,4-dihydro-2H-1-benzothiopyran-4-yl) <u>O</u> , <u>O</u> -dimethyl ester	20 25	2 -	2 -	-	-
544	27320	Phosphorodithioic acid, <u>S</u> -(2-chloro-1-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl] <u>O</u> , <u>O</u> -diethyl ester	25 20	4 -	3(4) -	-	-
545	27562	Phosphorodithioic acid, <u>S</u> -(4-chloro-1,2-dihydro-1-oxo-2-phthalaziny1)methyl] <u>O</u> , <u>O</u> -diethyl ester	25 20 310	- 3 3	- 4 4	-	3
546	27650	Phosphorodithioic acid, <u>S</u> -(2-chloro-1-(2-oxo-3(2H)-benzoxazolyl)ethyl] <u>O</u> , <u>O</u> -diethyl ester	25 20	- -	4 -	-	3
547	27163	Phosphorodithioic acid, <u>S</u> -(6-chloro-2-oxo-3(2H)-benzoxazolyl)methyl] <u>O</u> , <u>O</u> -diethyl ester	25 20	2(4) -	4 -	-	-
548	25648	Phosphorodithioic acid, <u>S</u> -(3-chloro-6-oxo-1(6H)-pyridaziny1)methyl] <u>O</u> , <u>O</u> -diethyl ester	25	-	3	-	-
549	23708	Phosphorodithioic acid, <u>S</u> -[[[(4-chlorophenyl)= thio]methyl] <u>O</u> , <u>O</u> -diethyl ester	³ 42.2 ⁶ 25	3 4	3 4	3 -	3
550	25586	Phosphorodithioic acid, <u>S</u> -[[[(4-chlorophenyl)= thio]methyl] <u>O</u> , <u>O</u> -dimethyl ester	25 ³ 45 ⁶ 25	2 2 1	2 - -	-	-
551	27312	Phosphorodithioic acid, <u>S</u> -(2-[(2-cyanoethyl)= phenylamino]-2-oxoethyl] <u>O</u> , <u>O</u> -diethyl ester	25	3(4)	3(4)	-	-
552	27316	Phosphorodithioic acid, <u>S</u> -(2-{di-2-propenylamino)-2-oxoethyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	4	4	-

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --		
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
553	25555	Phosphorodithioic acid, S-[[(3,4-dichloro=phenyl)thio]methyl] 0,0-diethyl ester	25	2	2	-
554	25655	Phosphorodithioic acid, S-[[(3,5-dichloro=phenyl)thio]methyl] 0,0-dimethyl ester	25	2	3	-
555	25554	Phosphorodithioic acid, S-[[(2,5-dichloro=phenyl)thio]methyl] 0,0-diethyl ester	25	1	1	-
556	25931	Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)-6-methyl-4-pyrimidinyl] ester	25	1	1	-
557	29274	Phosphorodithioic acid, 0,0-diethyl S-[(4-fluorophenoxy)methyl] ester	25	-	2	2
558	27707	Phosphorodithioic acid, 0,0-diethyl S-[(5-methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl)methyl] ester	25	4	4	3
559	27911	Phosphorodithioic acid, 0,0-diethyl S-[2-[methyl(4-methyl-2-thiazolyl)amino]-2-oxoethyl] ester	25 410	2	2	2
560	27414	Phosphorodithioic acid, 0,0-diethyl S-[2-(methylthio)propyl] ester	25	3	4	3
561	25871	Phosphorodithioic acid, 0,0-diethyl S-[(2-oxo-3(2H)-benzoxazolyl)methyl] ester	25	3	3	-
562	27836	Phosphorodithioic acid, 0,0-diethyl S-[2-(3-oxo-4-thiomorpholinyl)ethyl] ester	25	3	3	3
563	29202	Phosphorodithioic acid, 0,0-diethyl S-[phenyl(phenylthio)methyl] ester	25	1	2	2
564	27211	Phosphorodithioic acid, 0,0-diethyl S-(tetrahydro-2-oxo-3-furanyl) ester	25	1	1	-
565	27736	Phosphorodithioic acid, S-[[3-(difluoromethyl)-4,5-dihydro-4-methyl-5-thioxo-1H-1,2,4-triazol-1-yl]methyl] 0,0-diethyl ester	15 20	-	-	4 4
566	25705	Phosphorodithioic acid, S-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl] 0,0-dimethyl ester	311.9 650 25	3 2(4) 2	2(4) 2 -	3 - 4
567	25865	Phosphorodithioic acid, S-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl] 0-ethyl 0-methyl ester	25	3	4	-

568	25864	Phosphorodithioic acid, S-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl] O-ethyl O-propyl ester	25	4	3	-	-
569	27837	Phosphorodithioic acid, S-[(1,4-dihydro-1-methyl-2,4-dioxo-3(2H)-quinazolinyl)methyl] O-ethyl S-propyl ester	25 20	2 -	2 -	-	- 3
570	27735	Phosphorodithioic acid, S-[[4,5-dihydro-4-methyl-5-thioxo-3-(trifluoromethyl)-1H-1,2,4-triazol(-3)-yl)methyl] O,O-diethyl ester	20	4	4	4	4
571	27405	Phosphorodithioic acid, O,O-dimethyl S-[1-(2,5-dioxo-1-pyrrolidinyl)ethyl] ester	20 25	3 -	3 -	-	- 3
572	27615	Phosphorodithioic acid, O,O-dimethyl S-[(3-methyl-2,5-dioxo-1-imidazolidinyl)methyl] ester	25	-	4	4	3
573	27073	Phosphorodithioic acid, O,O-dimethyl S-[(2-methyl-1,3-dithiolan-2-yl)methyl] ester	25	2	2	-	-
574	27113	Phosphorodithioic acid, O,O-dimethyl S-[2-[[1-methyl-2-(methylamino)-2-oxoethyl]sulfinyl]ethyl] ester	20	2	2	-	-
575	29273	Phosphorodithioic acid, O,O-dimethyl S-[2-[methyl[(methylthio)methyl]amino]-2-oxoethyl] ester	25 20	1 -	1 -	2 -	- 1
576	27071	Phosphorodithioic acid, O,O-dimethyl S-[(2-methyl-1,3-oxathiolan-2-yl)methyl] ester	25	3	4	-	-
577	24650	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	25 23.4	3 -	3 -	-	- 3
578	27112	Phosphorodithioic acid, S-[2-[[1,1-dimethyl-2-(methylamino)-2-oxoethyl]thio]ethyl] O,O-dimethyl ester	25	3	2	-	-
579	27412	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylthio)propyl] ester	25	2	2	3	2
580	27111	Phosphorodithioic acid, O,O-dimethyl S-[(2-oxo-3(2H)-benzothiazolyl)methyl] ester	25	3	2	-	-
581	27110	Phosphorodithioic acid, O,O-dimethyl S-[(2-oxo-3(2H)-benzoxazolyl)methyl] ester	25	2 (3)	2	-	-
582	27422	Phosphorodithioic acid, O,O-dimethyl S-1-propenyl ester	25	2	2	2	2
583	27123	Phosphorodithioic acid, S-(4,6-dimethyl-2-pyrimidinyl) O-ethyl O-(1-methylethyl) ester	25	4	4	4	2 4
584	27122	Phosphorodithioic acid, S-(4,6-dimethyl-2-pyrimidinyl) O-ethyl O-propyl ester	25 20	4 -	4 -	-	2 3

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>annulatus</i>	<i>microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
585	27158	Phosphorodithioic acid, <u>O</u> , <u>O</u> -dimethyl <u>S</u> -9-thiabicyclo[4.2.1]nonenyl ester (isomeric mixture)	625	1	1	-	-
586	22897	Phosphorodithioic acid, <u>S</u> , <u>S'</u> -1,4-dioxane-2,3-diyl <u>O</u> , <u>O</u> , <u>O'</u> , <u>O'</u> -tetraethyl ester	330 25	3(4) -	- 3	3 3	3 -
587	27614	Phosphorodithioic acid, <u>S</u> -[(2,4-dioxo-3-oxazolidinyl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	20 25	- -	2 -	- 3	- 2
588	27956	Phosphorodithioic acid, <u>S</u> -[[2,5-dioxo-3-(1-oxohexyl)-1-imidazolidinyl]methyl] <u>O</u> , <u>O</u> -dimethyl ester	20	3	3	2	2
589	25872	Phosphorodithioic acid, <u>S</u> -[(2,5-dioxo-1-pyrrolidinyl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	25	3	4	-	-
590	27295	Phosphorodithioic acid, <u>S</u> -[(2,4-dioxo-3-thiazolidinyl)methyl] <u>O</u> , <u>O</u> -diethyl ester	25 20	3 -	4 -	4 4	- -
591	27296	Phosphorodithioic acid, <u>S</u> -[(2,4-dioxo-3-thiazolidinyl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	25	3	3	-	-
592	27238	Phosphorodithioic acid, <u>S</u> -[(5-ethoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	3	-	-
593	27318	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> , <u>S</u> -dipropyl ester	25	3	3(4)	3	-
594	27848	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(1-methylethyl)thio]ethyl <u>S</u> -propyl ester	25	3	3	4	4
595	27806	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(methylsulfinyl)ethyl] <u>S</u> -propyl ester	25	3	4	3	3
596	27761	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(methylthio)ethyl] <u>S</u> -propyl ester	25	3	3	4	4
597	27760	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(methylthio)propyl] <u>S</u> -propyl ester	25	3	2	3	3
598	27808	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(phenylthio)ethyl] <u>S</u> -propyl ester	25	4	3	4	2
599	27762	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -[2-(<u>S</u> -[2-(propylthio)ethyl] ester	25	4	2	4	4
600	27759	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -propyl <u>S</u> -[2-(propylthio)propyl] ester	25	4	2	4	3

601	27807	Phosphorodithioic acid, <u>O</u> -ethyl <u>S</u> -propyl <u>S</u> -[(1,2,5,6-tetrahydro-1-methyl-2,4-dioxo-3(4H)-pyrimidinyl)methyl] ester	25	3	3	3	3
602	25828	Phosphorodithioic acid, <u>S</u> -[2-(ethylamino)-1-[(ethylamino)carbonyl]-2-oxoethyl] <u>O</u> , <u>O</u> -dimethyl ester	25 40 60	1 1 1	1 1 -	- - -	- - -
603	27413	Phosphorodithioic acid, <u>S</u> -[2-(ethylthio)propyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	3	2	2
604	27257	Phosphorodithioic acid, <u>S</u> -[2-(formylmethylamino)-2-oxoethyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2(3)	2(3)	3	-
605	25820	Phosphorodithioic acid, <u>S</u> -[2-[[[1,4,5,6,7,7-hexachlorobicyclo(2.2.1)hept-5-en-2-yl=methyl]thio]-1-methylethyl] <u>O</u> , <u>O</u> -dimethyl ester	25	1	1	-	-
606	29113	Phosphorodithioic acid, <u>S</u> -(2-mercaptoethyl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	2	3	2
607	27360	Phosphorodithioic acid, <u>S</u> -[2-[methoxy(1-methyl=ethyl)amino]-2-oxoethyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2(3)	2	-	-
608	27901	Phosphorodithioic acid, <u>S</u> -[(5-methoxy-1,2,4-thiadiazol-3-yl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	350	3	3	3	3
609	27193	Phosphorodithioic acid, <u>S</u> -[(5-methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	25 20	3(4) -	3 -	- 4	- -
610	27160	Phosphorodithioic acid, <u>S</u> -[2-[(2-methoxy=ethyl)amino]-2-oxoethyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	2	-	-
611	27980	Phosphorodithioic acid, <u>S</u> -[2-(methoxyimino)propyl] <u>O</u> , <u>O</u> -dimethyl ester	40 40 25	- 1 -	- - -	- - 1	1 - -
612	25821	Phosphorodithioic acid, <u>O</u> -methyl <u>S</u> , <u>S</u> -dipropyl ester	25	3	3	-	-
613	27047	Phosphorodithioic acid, <u>O</u> -methyl <u>S</u> -[[[2-[(methylamino)carbonyl]oxy]ethyl]thio]methyl] <u>O</u> -(1-methylethyl) ester	25 20	2(3) -	3(4) -	- 4	- 3
614	24105	Phosphorodithioic acid, <u>S</u> , <u>S</u> '-methylene <u>O</u> , <u>O</u> , <u>O</u> ', <u>O</u> '-tetraethyl ester	25	3	4	4	3
615	25739	Phosphorodithioic acid, <u>S</u> , <u>S</u> '-(phenylmethylene)-, <u>O</u> , <u>O</u> , <u>O</u> ', <u>O</u> '-tetramethyl ester	20 25	3 3	- 2(3)	- -	- -
616	27482	Phosphorodithioic acid, <u>O</u> , <u>O</u> , <u>S</u> -trimethyl ester	25	2	2	1	-

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² ---			
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>	
617	27544	Phosphorothioic acid, <u>O</u> -[4-[1-(acetyloxy)=imino]ethyl]-3-methylphenyl] <u>O</u> , <u>O</u> -diethyl ester	25	2	1	3	1
618	29107	Phosphorothioic acid, <u>O</u> -[4-[1-(acetyloxy)=imino]ethyl]phenyl] <u>O</u> , <u>O</u> -diethyl ester	25	2	3	2	2
619	27845	Phosphorothioic acid, <u>O</u> -1,2-benzisoxazol-3-yl <u>O</u> , <u>O</u> -diethyl ester	25	3	3	3	2
620	27445	Phosphorothioic acid, <u>O</u> -1,2,3-benzothiadiazol-6-yl <u>O</u> , <u>O</u> -dimethyl ester	20	2	1	-	-
621	10620	Phosphorothioic acid, <u>O</u> , <u>O</u> -bis(1-methylethyl) <u>O</u> -(4-nitrophenyl) ester	25	4	4	2	2
622	27258	Phosphorothioic acid, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O</u> , <u>O</u> -diethyl ester	25 340	2	4	-	-
623	27162	Phosphorothioic acid, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O</u> , <u>O</u> -dimethyl ester	25 320	1(2)	1(2)	-	-
624	27607	Phosphorothioic acid, <u>O</u> -(3-bromo-5,7-dimethyl=pyrazolo[1.5-a]pyrimidin-2-yl) <u>O</u> , <u>O</u> -diethyl ester	20	3	3	3	3
625	27826	Phosphorothioic acid, <u>O</u> -(3-bromo-7-methyl=pyrazolo[1.5-a]pyrimidin-2-yl) <u>O</u> , <u>O</u> -diethyl ester	25 20	3	3	-	4
626	29038	Phosphorothioic acid, <u>O</u> -butyl <u>O</u> -methyl <u>O</u> -1,2,5-thiadiazol-3-yl ester	25	3	3	3	3
627	27543	Phosphorothioic acid, <u>O</u> -[4-[1-[[[(butylamino)=carbonyl]oxy]imino]ethyl]phenyl] <u>O</u> , <u>O</u> -diethyl ester	25	2	2	2	-
628	27508	Phosphorothioic acid, <u>O</u> -[4-[[[(butylamino)=carbonyl]oxy]imino]methyl]phenyl] <u>O</u> , <u>O</u> -diethyl ester	25	2	3	3	2
629	27444	Phosphorothioic acid, <u>O</u> -(4-chloro-7-benzofurazanyl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	2	-	-
630	27464	Phosphorothioic acid, <u>O</u> -(7-chloro-4-benzofurazanyl) <u>O</u> -methyl <u>O</u> -(1-methylethyl) ester	20 25	3	3	-	2
631	27235	Phosphorothioic acid, <u>O</u> -(4-chloro-2-cyanophenyl) <u>O</u> , <u>O</u> -dimethyl ester	330	1	1	-	-

632	27769	Phosphorothioic acid, O-[3-chloro-4-[(diethylamino)sulfonyl]phenyl] <u>O</u> , <u>O</u> -dimethyl ester	25 20	2 -	- 3	- 2
633	29083	Phosphorothioic acid, S-(6-chloro-3,4-dihydro-2H-1-benzothioopyran-4-yl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	4	2
634	27608	Phosphorothioic acid, O-(3-chloro-5,7-dimethyl-1-pyrazolo[1.5-a]pyrimidin-2-yl) <u>O</u> , <u>O</u> -diethyl ester	20	4	4	4
635	17957	Phosphorothioic acid, O-(3-chloro-4-methyl-2-oxo-2H-benzopyran-7-yl) <u>O</u> , <u>O</u> -diethyl ester	³ 11.6 ₆ 25	3(4) -	3 -	3 2
636	29128	Phosphorothioic acid, O-[5-chloro-1-(1-methylethyl)-1H-1,2,4-triazol-3-yl] <u>O</u> , <u>O</u> -diethyl ester	25	4	4	4
637	29129	Phosphorothioic acid, S-[(6-chloro-2-oxo-oxazolo[4,5-b]pyridin-3(2H)-yl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	20 25 10	- - 3	- 1 -	2 1 -
638	29008-X	Phosphorothioic acid, O-(6(or 7)-chloro-2-quinoxalanyl) <u>O</u> , <u>O</u> -diethyl ester	20 25	2(3) -	- 2	2 -
639	27117	Phosphorothioic acid, O-[2-chloro-1-(2,4,5-trichlorophenyl)ethenyl] <u>O</u> , <u>O</u> -dimethyl ester	25	1	-	-
640	27331	Phosphorothioic acid, S-(4-chlorotetrahydro-3-thienyl) <u>O</u> , <u>O</u> -diethyl ester, 1,1-dioxide	25	3	2(3)	-
641	29095	Phosphorothioic acid, O-(4-cyano-3-ethoxy-5-isothiazolyl) <u>O</u> , <u>O</u> -diethyl ester	25	2	-	3
642	29096	Phosphorothioic acid, O-(4-cyano-3-methoxy-5-isothiazolyl) <u>O</u> , <u>O</u> -diethyl ester	25	2	-	-
643	27230	Phosphorothioic acid, O-(4-cyano-2-methoxyphenyl) <u>O</u> , <u>O</u> -dimethyl ester	⁴ 10	1	-	-
644	27577	Phosphorothioic acid, S-[2-[(1-cyano-1-methyl-ethyl)amino]-2-oxoethyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	3	3
645	27746	Phosphorothioic acid, O-[4-[[cyanol(1-methyl-ethyl)thio]methyl]thio]phenyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	3	2
646	25675	Phosphorothioic acid, O-(4-cyanophenyl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	-	-
647	27745	Phosphorothioic acid, O-[4-[(cyanophenylmethyl)=thio]phenyl] <u>O</u> , <u>O</u> -dimethyl ester	20	2	3	2
648	29099	Phosphorothioic acid, O-[2,5-dichloro-4-(ethylthio)phenyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	-	-
649	27409	Phosphorothioic acid, O-(2,5-dichloro-4-iodophenyl) <u>O</u> , <u>O</u> -diethyl ester	20 25	3 -	- 3	2 -

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>Boophilus microplus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
650	27408	Phosphorothioic acid, O-(2,5-dichloro-4-iodophenyl) O,O-dimethyl ester	20 25	2 -	2 -	- 2	1 1
651	27569	Phosphorothioic acid, O-(2,5-dichloro-4-iodophenyl) O-ethyl O-methyl ester	25 20	- -	2 -	- -	- 2
652	27635	Phosphorothioic acid, O-[2,5-dichloro-4-(methylthio)phenyl] O,O-diethyl ester	20 25	3(4) -	3 -	- -	- 4
653	27908	Phosphorothioic acid, O-[2,5-dichloro-4-(methylthio)phenyl] O,O-diethyl ester	25	2	3	3	3
654	17470	Phosphorothioic acid, O-(2,4-dichlorophenyl) O,O-diethyl ester	³ 46 ⁶ 25	1(2) -	2 -	2 3	- -
655	27628	Phosphorothioic acid, S-[2-[(diethoxy=phosphinyl)amino]ethyl] O,O-dimethyl ester	25	2	2	2	-
656	27629	Phosphorothioic acid, S-[2-[(diethoxy=phosphinyl)amino]ethyl] O-methyl O-propyl ester	25	2	2	3	2
657	27812	Phosphorothioic acid, O,O-diethyl S-(5,5-dimethyl-3-oxo-2-thiomorpholinyl) ester	20 25	3 -	3 -	- 3	3 -
658	27416	Phosphorothioic acid, O,O-diethyl S-[2-(ethylthio)propyl] ester	25	3	3	-	3
659	27665	Phosphorothioic acid, O,O-diethyl O-[4-[[[(hexahydro-1H-azepin-1-yl)carbonyl]oxy]=imino]methyl]phenyl ester	25	2	3	3	3
660	27720	Phosphorothioic acid, O,O-diethyl O-[4-[[[(hexylamino)carbonyl]oxy]imino]methyl]phenyl ester	25	2	3	3	2
661	19507	Phosphorothioic acid, O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester	³ 25 ⁶ 25 25	2(4) - 3	- - 3(4)	3 3 -	2 - -

662	27542	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -[4-[1- [[[(methylamino)carbonyl]oxy]imino]ethyl] phenyl] ester	25	2	2	2	-
663	27506	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -[4- [[[(methylamino)carbonyl]oxy]imino]methyl] phenyl] ester	⁴ 10	-	2	3	2
664	27647	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -[4- [[[(4-morpholinylcarbonyl)oxy]imino]methyl] phenyl] ester	20 25	3 2	- 2	3 3	2 2
665	27144	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -(2-oxo- 2H-1-benzopyran-3-yl) ester	25 20	4 -	3(4) -	- 4	- 4
666	27333	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>S</u> -[(2-oxo-3- furanyl)methyl] ester	25	2	2	-	-
667	25597	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -(3- pentadecylphenyl) ester	25	1	1	-	-
668	27764	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -(1-phenyl-1- 1H-1,2,4-triazol-3-yl) ester	25	4	3	4	4
669	27507	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -[4- [[[(2-propenylamino)carbonyl]oxy]imino]= methyl]phenyl] ester	20 25	2 -	3 -	- 2	- 2
670	27394	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -2- quinoxalyl ester	25	-	-	3	-
671	27311	Phosphorothioic acid, <u>O</u> , <u>O</u> -diethyl <u>O</u> -(3,5,6- trichloro-2-pyridinyl) ester	³ 1 lb/gal 25 ⁶ 25	- 3 3(4)	- 3(4) 4	- 3 -	3 - -
672	27698	Phosphorothioic acid, <u>O</u> -[2-(diethylamino)- 6-methyl-4-pyrimidinyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	3	3	2(3)
673	27699	Phosphorothioic acid, <u>O</u> -[2-(diethylamino)-6- methyl-4-pyrimidinyl] <u>O</u> , <u>O</u> -dimethyl ester	25	3	2	2	2
674	27900	Phosphorothioic acid, <u>O</u> -[1-[2-(diethylamino)-2- oxoethyl]-6-oxo-3(1H)-pyridazinyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	4	4	3
675	27609	Phosphorothioic acid, <u>O</u> -(1,2-dihydro-1,6- dimethyl-2-oxo-4-pyridinyl) <u>O</u> , <u>O</u> -dimethyl ester	25	2	3	3	2
676	25706	Phosphorothioic acid, <u>S</u> -[(1,3-dihydro-1,3- dioxo-2H-isoindol-2-yl)methyl] <u>O</u> , <u>O</u> -diethyl ester	20 25	2 -	- 3	- -	- -

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --		
				<i>Boophilus annulatus</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
677	27465	Phosphorothioic acid, O-[2,3-dihydro-1,3-dioxo-2-(phenylmethyl)-1H-isoindol-5-yl] O,O-dimethyl ester	20	2	2	2
678	27618	Phosphorothioic acid, O,O-dimethyl S-[(3-methyl-2,5-dioxo-1-imidazolidinyl)methyl] ester	25 20	- -	2 -	- 2
679	25540	Phosphorothioic acid, O,O-dimethyl O-[3-methyl-4-(methylthio)phenyl] ester	³ 46 ³ 26	2 -	3 -	2 2
680	29139	Phosphorothioic acid, O,O-dimethyl O-[4-[1-[[[(methylamino)carbonyl]oxy]amino]ethyl]phenyl] ester	10	1	1	2
681	27326	Phosphorothioic acid, O,O-dimethyl O-[3-[(1-methylethyl)thio]-4-nitrophenyl] ester	25	1(2)	1	-
682	25673	Phosphorothioic acid, O-[3,5-dimethyl-4-(methylthio)phenyl] O,O-diethyl ester	25 ³ 2 lb/gal	- -	3 -	- 2
683	25684	Phosphorothioic acid, O-[3,5-dimethyl-4-(methylthio)phenyl] O,O-dimethyl ester	25 20	2 -	2 -	- 1
684	25923	Phosphorothioic acid, O,O-dimethyl O-(3-nitrophenyl) ester	25	2	2	-
685	27813	Phosphorothioic acid, O,O-dimethyl S-[2-oxo-2-[(2-oxo-3-oxazolidinyl)amino]ethyl] ester	⁴ 10	3	2	2
686	29037	Phosphorothioic acid, O,O-dimethyl O-(5-phenyl-1,2,4-thiadiazol-3-yl) ester	25	2	1	-
687	27815	Phosphorothioic acid, O,O-dimethyl S-[(1,2,5,6-tetrahydro-1,5-dimethyl-2,4-dioxo-3(4H)-pyrimidinyl)methyl] ester	25	3	3	2
688	27804	Phosphorothioic acid, O,O-dimethyl S-[(1,2,5,6-tetrahydro-1-methyl-2,4-dioxo-3(4H)-pyrimidinyl)methyl] ester	20 25	3 -	3 -	- 2
689	29040	Phosphorothioic acid, O,O-dimethyl O-1,2,5-thiadiazol-3-yl ester	25	2	2	3

690	27520	Phosphorothioic acid, <u>O</u> , <u>O</u> -dimethyl <u>O</u> -(3,5,6-trichloro-2-pyridinyl) ester	25	2	1	2	3
691	23284	Phosphorothioic acid, <u>O</u> , <u>O</u> -dimethyl <u>O</u> -(2,4,5-trichlorophenyl) ester	³ 24	1(2)	1	2	1
692	27664	Phosphorothioic acid, <u>O</u> -[4-[[[(dimethylamino)=carbonyl]oxy]imino]methyl]phenyl] <u>O</u> , <u>O</u> -diethyl ester	20 25	2 -	3 -	4 -	- 2
693	27950	Phosphorothioic acid, <u>O</u> -[1-[3-(dimethylamino)-3-oxopropyl]-6-oxo-1(6H)-pyridazin-3-yl] <u>O</u> , <u>O</u> -diethyl ester	25	4	4	4	3
694	25644	Phosphorothioic acid, <u>O</u> -[4-[(dimethylamino)=sulfonyl]phenyl] <u>O</u> , <u>O</u> -dimethyl ester	³ 25	2	2	-	1
695	25848	Phosphorothioic acid, <u>S</u> -[[(2,4-dimethylphenyl)=thio]methyl] <u>O</u> , <u>O</u> -diethyl ester	25	3	4	3	-
696	27651	Phosphorothioic acid, <u>S</u> -[(2,4-dioxo-3-oxazolidinyl)methyl] <u>O</u> , <u>O</u> -diethyl ester	25	-	3	4	2
697	27617	Phosphorothioic acid, <u>S</u> -[(2,4-dioxo-3-oxazolidinyl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	⁴ 10 20	- -	1 -	- 3	- 3
698	27616	Phosphorothioic acid, <u>S</u> -[(2,4-dioxo-3-thiazolidinyl)methyl] <u>O</u> , <u>O</u> -dimethyl ester	25	-	2	3	2
699	27330	Phosphorothioic acid, <u>O</u> , <u>O</u> '-(dithio-4,1-phenylene) <u>O</u> , <u>O</u> , <u>O</u> ', <u>O</u> '-tetramethyl ester	25	3(4)	3(4)	3	-
700	29126	Phosphorothioic acid, <u>O</u> -(6-ethoxy-2-ethyl-4-pyrimidinyl) <u>O</u> , <u>O</u> -dimethyl ester	25	1	-	2(3)	2
701	29124	Phosphorothioic acid, <u>O</u> -[6-ethoxy-2-(1-methylethyl)-4-pyrimidinyl] <u>O</u> , <u>O</u> -dimethyl ester	25	1	-	2	1
702	27654	Phosphorothioic acid, <u>O</u> -[4-[1-[(ethoxycarbonyl)oxy]=imino]ethyl]phenyl] <u>O</u> , <u>O</u> -diethyl ester	25	-	2	2	2
703	29118	Phosphorothioic acid, <u>O</u> -ethyl <u>S</u> -propyl <u>O</u> -(2,4,6-trichlorophenyl) ester	25	3	4	3	3
704	27820	Phosphorothioic acid, <u>S</u> -[3-(ethylamino)-3-oxo-1-propenyl] <u>O</u> , <u>O</u> -dimethyl ester, (Z)-	⁴ 10 20	3 -	2 -	- 3	- 2
705	27805	Phosphorothioic acid, <u>S</u> -[[1-(2-methoxyethyl)-2,4-dioxo-3-imidazolidinyl]methyl] <u>O</u> , <u>O</u> -dimethyl ester	25	2	2	3	2
706	27161	Phosphorothioic acid, <u>O</u> , <u>O</u> '-(sulfonyldi-4,1-phenylene) <u>O</u> , <u>O</u> , <u>O</u> ', <u>O</u> '-tetramethyl ester	25	1	1	-	-
707	27165	Phosphorothioic acid, <u>O</u> , <u>O</u> '-(thiodi-4,1-phenylene) <u>O</u> , <u>O</u> , <u>O</u> ', <u>O</u> '-tetramethyl ester	25	1	1(2)	1	1
708	27184	Phosphorotritioic acid, <u>O</u> -methyl <u>S</u> , <u>S</u> -dipropyl ester	25	2	2	-	-
709	27243	Piperazine, 2-hydroxy-1,2,3-propanetricarboxylate (3:2)	25	1	1	-	-

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				<i>Boophilus annulatus</i>	<i>microplus nitens</i>	<i>Anocentor nitens</i>	<i>Dermacentor albipictus</i>
710	28800	Piperidine, 1-benzoyl-2-methyl-	20 25	- 1	1 1	- -	- -
711	28801	Piperidine, 1-benzoyl-4-methyl-	20	1	1	-	-
712	27529	Piperidine, 1-decyl-	25	2	1	-	-
713	27541	Piperidine, 1-decyl-4-methyl-	25	1	1	-	-
714	25921	Piperidine, 1-(2-ethyl-1-oxoheptyl)-	25	1	1	-	-
715	26959	Piperidine, 1-[(3-methoxyphenyl)carbonyl]-	25	-	1	-	-
716	27533	Piperidine, 1-(5,5,7,7-tetramethyl-2-octenyl)-	25	1	2	-	-
717	70282	Piperidine, 1-[2-[2-[(1,7,7-trimethyl- bicyclo[2.2.1]hept-2-yl)oxy]ethoxy]ethyl]-	25	1	1	1	1
718	29223	1-Piperidinesulfenamide, N-[[[(4-chloro-2- methylphenyl)imino]methyl]-N-methyl-	25	2	1	2	2
719	29222	1-Piperidinesulfenamide, N-[[[(2,4-dimethyl- phenyl)imino]methyl]-N-methyl-	25	1	3	3	4
720	27957	Propanal, 2-oxo-, 1-(phenylhydrazono)	20 420	2 -	2 -	3 -	- 2
721	29243	Propanamide, N-[2-amino-3-nitro-5-(trifluoro- methyl)phenyl]-2,2,3,3-tetrafluoro-	20	3	4	3	3
722	27910	Propanedinitrile, [[3,5-bis(1,1-dimethylethyl)- 4-hydroxyphenyl]methylene]-	20	1	3	2	1
723	27909	Propanedinitrile, [[3,5-bis(1,1-dimethylethyl)- 4-[[[(phenylamino)carbonyl]oxy]phenyl]methylene]-	20	2	3	1	1
724	27824	Propanedinitrile, [[[(3,5-bis(trifluoromethyl)= phenyl]ethylamino)methylene]-	410 20	1 -	- 1	- 1	- 1
725	70671	Propanenitrile, 2-[[[4-azido-6-(cyclopropylamino)- 1,3,5-triazin-2-yl]amino]-	20	-	-	1	1
726	27260	1-Propanethiol, 3-(tributylstannyl)-, acetate	25	1(2)	2	-	-
727	27785	Propanoic acid, 2-bromo-2-methyl-, [5-chloro-2- (dimethylamino)phenyl](2-methylphenyl)methyl ester	20 10	1 -	- 2	1 -	1 -

728	27796	Propanoic acid, 2-bromo-2-methyl-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	25	1	1	-	1	-	1
			20	-	-	1	-	-	-
729	27941	Propanoic acid, 2-[[[3-[(dimethoxyphosphinyl)oxy]-1-oxo-2-butenyl]oxy]-, methyl ester	25	1	2	2 (3)	2	2	2
730	27991	Propanoic acid, 2,2-dimethyl-, 1-oxo-2-(2,4,6-trimethylphenyl)-1H-inden-3-yl ester	25	4	4	-	-	-	-
			3 2 lb/gal	-	-	4	2	2	2
731	27779	Propanoic acid, 2-phenoxy-, [5-chloro-2-(dimethylamino)phenyl](2-methylphenyl)methyl ester	⁴ 10	1	1	-	-	-	-
			20	-	-	1	-	-	-
			10	-	-	-	1	1	1
732	27794	Propanoic acid, 2-phenoxy-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	20	1	1	1	1	1	1
733	70446	1-Propanol, 2-[(3,7-dimethyloctyl)amino]-2-methyl-	20	1	1	1	1	1	1
734	70515	1-Propanol, 2-methyl-2-(octylamino)-	25	1	1	1	1	1	1
735	27857	2-Propanone, O-[ethyl[[[(ethylthio)methyl]=thio]phosphinothioyl]oxime	⁴ 10	3	-	-	-	-	-
			25	-	4	4	3	3	3
736	27859	2-Propanone, O-[ethyl(3-methyl-4-nitrophenoxy)=phosphinothioyl]oxime	20	4	4	-	-	-	-
			⁴ 10	-	-	3	-	-	-
737	27861	2-Propanone, O-[ethyl(phenylthio)=phosphinothioyl]oxime	25	4	3	4	-	-	-
			20	-	-	-	3	3	3
738	27912	2-Propanone, O-[ethyl(2,4,5-trichloro=phenoxy)phosphinothioyl]oxime	25	2	3	3	3	3	3
739	27571	1-Propanone, 2-methyl-1-(2-thienyl)-, O-[(methylamino)carbonyl]oxime	⁴ 10	-	2	3	2	2	2
740	27795	2-Propenoic acid, 3-phenyl-, [5-chloro-2-(dimethylamino)phenyl]phenylmethyl ester	20	1	1	1	-	-	-
			25	-	-	-	1	1	1
741	27528	Pyridine, 2-(2-methoxyethoxy)-	25	1	1	-	-	-	-
742	70562	Pyridine, 1,2,3,6-tetrahydro-1-(3-methylbenzoyl)-	25	1	1	1	1	1	1
743	29186	Pyridinium, 1-[(4-chlorobenzoyl)amino]----hydroxide, inner salt	⁴ 10	-	-	-	1	1	1
			20	1	1	-	-	-	-
			25	-	-	1	-	-	-
744	28870	Pyrrolidine, 1-benzoyl-	25	1	1	-	-	-	-
745	29249	Spiro[cyclopropane-1,1'-(1H)indene]-2-carboxylic acid, 3,3-dimethyl-, cyano(3-phenoxyphenyl)methyl ester	25	3	3	4	4	4	4

See footnotes at end of table.

TABLE 3.--Classification of 771 candidate acaricides screened for the control of cattle ticks, southern cattle ticks, tropical horse ticks, and winter ticks--Continued

Item No.	AI3 No. (AI3-)	Chemical ¹	Formulation (% EC)	Classification against ² --			
				Boophilus		Anocentor nitens	Dermacentor albipictus
				annulatus	microplus		
746	29250	Spiro[cyclopropane-1,1'-[1H]indene]-2-carboxylic acid, 3,3-dimethyl-, (3-phenoxyphenyl)methyl ester	25	-	-	3	3
747	29267	Spiro[2.4]heptane-1-carboxylic acid, 2,2-dimethyl-, α -cyano- (3-phenoxyphenyl)methyl ester	25	2	2	3	3
748	27739	Stannane, chlorotris (2-methyl-2-phenylpropyl)-	20	1	1	1	1
749	27428	Stannane, hexamethyldi-	25 20	2 -	2 -	- 1	- 2
750	27261	Stannane, tributyl[(1-oxo-9-octadecenyl)oxy]-, (Z)-	25	2	2	-	-
751	27799	Stannane, tributyl[(phenylsulfonyl)methyl]-	25	-	-	3	-
752	27855	Sulfurous acid, 2-butynyl 1-[[4-(1,1-dimethylethyl)phenoxy]methyl]propyl ester	20 25	1 -	1 -	- 1	- 1
753	27280	Sulfurous acid, decyl 2-propynyl ester	25	1	2	2	1
754	27226	Sulfurous acid, 2-[4-(1,1-dimethylethyl)=phenoxy]cyclohexyl 2-propynyl ester	25	1	1(2)	2	2
755	27224	Sulfurous acid, 1-[[4-(1,1-dimethylethyl)=phenoxy]methyl]propyl 2-methylphenyl ester	25	1	1	-	-
756	27225	Sulfurous acid, 1-[[4-(1,1-dimethylpropyl)=phenoxy]methyl]propyl 2-propynyl ester	25	1(2)	2	-	-
757	27534	Sulfurous acid, diphenyl ester	25	1	1	-	-
758	27852	Sulfurous acid, dodecyl 2-propynyl ester	25	2	2	2	2
759	27279	Sulfurous acid, hexyl 2-propynyl ester	25	1	1	1	1
760	27853	Sulfurous acid, octyl 2-propynyl ester	25	1	2	2	1
761	28865	2,4,8,10-Tetraoxaspiro[5.5]undecane, 3,3,9,9-tetramethyl-	20	1	1	-	-
762	29103	Thiocyanic acid, 2-[(dimethylamino)carbonyl]-1,3-propanediyl ester	20	1	1	1	1
763	29313	2-Thiopheneacetoneitrile, 5-chloro- α -[[[(diethoxyphosphinothioyl)oxy]imino]-	25	3	2	3	3
764	29042	2-Thiopheneacetoneitrile, α -[[[(diethoxy=phosphinothioyl)oxy]imino]-	25	3	4	3	2
765	29043	2-Thiopheneacetoneitrile, α -[[[(dimethoxy=phosphinothioyl)oxy]imino]-	25	2	2	2	2

766	29109	Thiophenacetonitrile, α -[[ethoxyethyl=phosphinothioyl)oxy]imino]-	25	3	3	3
767	27733	3(2H)-Thiophenone, dihydro-4,4-dimethyl-, <u>Q</u> -[(methylamino)carbonyl]oxime	20	2	3	3
768	70670	1,3,5-Triazine-2,4-diamine, 6-azido-N-cyclopropyl-N'-ethyl-	20	-	1	1
769	27440	Urea, N,N'-diethyl-N,N'-bis(4-nitrophenyl)-	⁴ 10	1	-	-
770	70151	Urea, N,N'-dimethyl-N,N'-(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)-	20	1	1	1
771	70152	Urea, N'-[(2-methylbicyclo[2.2.1]hept-2-yl)methyl]-N-methoxy-N-methyl-, <u>exo</u> -	25	1	1	1

¹The symbol = denotes an artificial wordbreak necessitated by the length of the name.

²Numbers in parentheses are the higher of 2 classifications for the same species.

³Commercially supplied emulsifiable formulation.

⁴Formulated in xylene and N-methyl-pyrrolidone.

⁵Commercially supplied suspension.

⁶Commercially supplied wettable powder.

INDEX OF MATERIALS

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
133	rotenone	106	25621	Velsicol 58-CS-56	121
1506	DDT	32	25635	BAY 30911	452
1716	methoxychlor	34	25644	famphur	694
4225	TDE	25	25648	Stauffer R-14789	548
7796	lindane	262	25655	Geigy G-35157	554
9735	toxaphene	113	25658	Stauffer R-2964	206
10620	Cheminova DK 7620	621	25659	Stauffer R-2965	202
16308	Abbott Arsanilic acid	9	25664	Stauffer R-3244	173
17034	malathion	122	25673	BAY 37341	682
17470	dichlofenthion	654	25675	BAY 34727	646
17588	Pyrolan	178	25684	BAY 37342	683
17957	coumaphos	635	25698	Shell SD-6460	510
18066-X	Dilan	29	25705	phosmet	566
19059	Pyramat	179	25706	Stauffer R-1505	676
19507	diazinon	661	25712	trichloronate	443
19763	trichlorfon	395	25713	BAY 38156	414
20738	dichlorvos	515	25714	BAY 38333	451
20852	butonate	125	25725	BAY 42600	441
22897	dioxathion	586	25731	BAY 38636	400
23284	ronnel	691	25736	carbanolate	195
23392	Shell SD-2653	290	25739	Shell SD-7438	615
23393	Alugan	109	25752	Shell SD-7079	508
23395	Merck L-485,719	27	25765	Stauffer N-3051	411
23708	Carbophenothion	549	25766	mexacarbate	208
23969	carbaryl	231	25770	Stauffer N-2860	405
24105	ethion	614	25774	Stauffer R-3424	166
24482	dicrotophos	525	25784	aminocarb	210
24650	dimethoate	577	25785	Monsanto CP-40272	447
24717	crotoxyphos	136	25786	Monsanto CP-40273	458
24967	General Chemical GC-3582	512	25787	Monsanto CP-40294	457
24968	General Chemical GC-3583	495	25788	Monsanto CP-40296	448
24969	Compound 4072	494	25797	Stauffer N-3047	438
24970	BAY 22408	80	25801	Stauffer R-3422-S	171
24988	naled	509	25802	Stauffer R-3423	165
25512	Shell SD-5090	131	25814	Shell SD-7554	519
25513	Shell SD-4554	130	25815	Shell SD-7565	518
25515	phosphamidon	499	25816	Shell SD-7587	507
25540	fenthion	679	25818	Shell SD-8280	496
25545	isobenzan	350	25820	Velsicol 58-CS-52	605
25554	Geigy G-30494	555	25821	VC 3-607	612
25555	Geigy G-27365	553	25828	BAY 47185	602
25586	methyl carbophenothion	550	25831	Stauffer B-10046	397
25597	Atomic-Basic	667	25832	Stauffer B-10094	461
25602	crufomate	466	25834	Stauffer B-10119	399
25604	Velsicol 53-CS-27	348	25835	Stauffer B-10190	398
25612	BAY 29952	455	25840	Shell SD-8436	492
25614	BAY 30468	454	25841	stirofos	504

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
25842	Shell SD-8448	503	27110	Rhodia RP-11783	581
25843	Shell SD-8530	246	27111	Rhodia RP-11807	580
25848	Chemagro S-8569	695	27112	Rhodia RP-13072	578
25864	Stauffer R-5722	568	27113	Rhodia RP-13378	574
25865	Stauffer R-5723	567	27115	tetrasul	31
25869	Monsanto CP-40115	436	27117	Shell SD-9021	639
25871	Hercules 6286-C	561	27119	Shell SD-9102	505
25872	Hercules 7845-C	589	27122	Stauffer R-5762	584
25873	Hercules 7846-D	533	27123	Stauffer R-5763	583
25875	Hercules 9975	114	27124	Wm. Cooper 29H62	105
25911	Hercules 9326	194	27125	Wm. Cooper 57H62	103
25916	Hercules 9995	193	27126	Wm. Cooper 156H61	104
25921	USI 655-188	714	27127-X	Chevron RE-5353	222
25923	BAY 45515	684	27128	Chevron RE-5655	197
25931	Hercules 6937	556	27129	monocrotophos	522
25961	Stauffer N-3727	424	27135	Monsanto CP-42320	115
25966	Stauffer N-3338	329	27136	Monsanto CP-42366	116
25967	Stauffer R-5976	207	27137	Monsanto CP-42527	117
25968	Stauffer R-5977	149	27139	Monsanto CP-43858	118
25969	Stauffer R-6032	182	27144	Niagara NIA-9227	665
25977	Monsanto CP-19203	423	27153	General Chemical GC-9287	352
25992	Shell SD-7727	174	27156	Hooker HRS-1630	192
25995	BAY 51580	422	27157	Hooker HRS-1631	220
26959	Johnson 1465-A-145	715	27158	Hooker HRS-1634	585
27005	Velsicol 48-CS-104	349	27160	amidithion	610
27011	Stauffer N-3336	394	27161	American Cyanamid CL-43913	706
27012	Stauffer N-3587	409	27162	bromophos	623
27015	Stauffer N-4543	410	27163	phosalone	547
27017	BASF I-155	351	27164	carbofuran	204
27018	Shell SD-8211	497	27165	temephos	707
27019	Shell SD-8949	489	27173	Hooker HRS-1667	229
27020	Shell SD-8964	493	27179	Stauffer R-6790	183
27028	Stauffer B-10095	431	27180	Stauffer N-4548	420
27031	Stauffer B-10205	527	27184	V-C 3-668	708
27033	Stauffer B-10341	449	27185	V-C 3-759	421
27035	Stauffer B-10498	481	27186	V-C 3-764	425
27038	Stauffer N-4168	413	27188	V-C 3-789	123
27041	Mobam	191	27190	Thompson-Hayward TH-103-M	260
27043	Shell SD-8988	490	27192	Dow Dowco-183	467
27045	Stauffer N-4446	402	27193	methidathion	609
27046	Stauffer R-6395	532	27207	Stauffer R-8033	531
27047	Stauffer R-6482	613	27211	General Chemical GC-9879	564
27053	Hercules 12402	110	27212	BAY 41637	226
27070	Stauffer B-9323	534	27213	BAY 38799	200
27071	Stauffer B-9625	576	27214	BAY 38800	199
27072	Stauffer B-9627	535	27215	Thompson-Hayward TH-113-M	124
27073	Stauffer B-10421	573			
27099	Shell SD-8967	488			
27109	BAY 50282	237			

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI-3)	Name or Company No.	Item No.
27224	U.S. Rubber C 940-85E	755	27334	Hercules 9007	152
27225	U.S. Rubber C 912-85E	756	27335	CIBA C-8514	334
27226	Ayerst AY-23595	754	27338	Fisons NC-1493	209
27227	Stauffer B-11110	430	27339	tetramethrin	279
27230	Stauffer B-11163	643	27341	du Pont 1179	317
27235	BAY 54203	631	27343	Velsicol FCS-303	459
27238	Geigy GS-12968	592	27345	Geigy GA-403	33
27239	Stauffer B-10288	480	27346	Monsanto CP-49674	530
27243	Burroughs Wellcome	709	27347	Hercules 11771-C	232
	Antipar		27348	Hercules 14469	168
27244	Pittsburgh Plate Glass	256	27350	Upjohn U-18120	184
	PPG-Dinobuton		27352	Upjohn U-22024	235
27249	Stauffer N-3794	416	27357	CIBA C-768	501
27250	Stauffer N-4328	415	27358	CIBA C-776	500
27251	Stauffer N-4330	412	27360	CIBA C-2428	607
27254	Stauffer R-10043	331	27361	Stauffer R-10414	408
27256	Hoechst HOE-2838	111	27372	Mobil MC-327	418
27257	formothion	604	27373	CELA K-37	432
27258	bromophos-ethyl	622	27374	CELA K-41	433
27260	Stauffer N-4372	726	27375	CELA K-43	445
27262	Upjohn U-12379	144	27376	Mobil MC-740	172
27261	Stauffer N-5117	750	27378	Velsicol VCS-506	460
27263	Upjohn U-20493	146	27384	Mobil MC-181	221
27264	Upjohn U-24157	147	27386	BAY 33051	40
27268	Hercules 13842	540	27389	du Pont 1519	217
27269	Hercules 13843	539	27391	Monsanto CP-51543	24
27274	Chemagro S-4537	298	27392	Union Carbide UC-30044	176
27279	Uniroyal UNI-D426	759	27393	Union Carbide UC-30045	190
27280	Uniroyal UNI-C935	753	27394	quinalphos	670
27295	Stauffer R-7239	590	27397	Stauffer R-11782	198
27296	Stauffer R-7240	591	27398	BAY 65258	479
27298	Stauffer N-5196	407	27399	BAY 69588	456
27300	promecarb	224	27400	Air Products AP-20	386
27301	Union Carbide UC-22878	112	27401	Air Products AP-27	387
27304	Union Carbide UC-23746	266	27402	General Mills RC-7794	108
27305	Union Carbide UC-25074S	342	27403	Pennsalt Nissol	2
27309	Stauffer N-4988	403	27404	Pennsalt TD-72	164
27310	Velsicol OCS-21959	536	27405	Hercules 13462	571
27311	chlorpyrifos	671	27406	Stauffer R-10778	419
27312	General Chemical GC-10284	551	27408	CIBA C-9491	650
27314	Velsicol FCS-13	485	27409	CIBA C-8874	649
27316	Monsanto CP-18978	552	27410	CIBA C-10015	214
27318	V-C 9-104	593	27411	du Pont 1642	313
27320	Hercules 14503	544	27412	Enjay ER-2430	579
27323	BAY 58733	318	27413	Enjay ER-2431	603
27326	BAY 69047	681	27414	Enjay ER-2432	560
27330	BAY 64995	699	27416	Enjay ER-2434	658
27331	Hooker HRS-1879	640	27422	Enjay ER-2440	582
27333	General Chemical GC-10101	666	27424	Enjay ER-2442	541

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
27428	Hexamethylditin	749	27532	Reynolds SAA 26 G	287
27429	Pennsalt TD-5063	128	27533	Reynolds SAA 28 A	716
27438	fenazaflor	70	27534	Reynolds SM 2 G	757
27440	Merck L-551,303	769	27535	Reynolds SM 4 G	296
27444	Shell SD-15134	629	27536	Reynolds SM 5 G	295
27445	Shell SD-15135	620	27537	Reynolds SM 10 G	267
27448	phoxim	44	27538	Reynolds SM 11 G	265
27449	chlorphoxim	41	27539	Reynolds SM 32 A	82
27451	Shell SD-14045	135	27540	Reynolds SM 50 A	81
27453	CELA K-159	446	27541	Reynolds SAA 74 A	713
27454	Hercules 9418	243	27542	Stauffer R-14805	662
27455	Hercules 9427	159	27543	Stauffer R-14855	627
27456	Hercules 16805	153	27544	Stauffer R-15201	617
27457	Hercules 16806	151	27545	Velsicol PCS-1301	54
27458	Hercules 17643	242	27546	Velsicol PCS-1302	53
27459	Hercules 17645	158	27549	Stauffer R-15022	437
27460	Hercules 17200	169	27553	Shell SD-15289	312
27462	Olin OM-53782	269	27557	CIBA C-11753	228
27463	Upjohn U-24310	385	27558	Dow Dowco-177	486
27464	Shell SD-15963	630	27562	American Cyanamid CL-23358	545
27465	Shell SD-12211	677	27564	CIBA C-9643	223
27466	BAY 42688	211	27566	Morton EP-332	341
27468	BAY 78537	145	27567	Morton EP-333	339
27469	BAY 78755	43	27567-X	Morton EP-334	340
27470	BAY 49854	326	27568	BAY 78389	316
27471	BAY 80833	453	27569	CIBA C-11044	651
27474	resmethrin	285	27571	Upjohn U-26549	739
27475	BAY 62862	225	27572	phenamiphos	470
27476	Stauffer R-14016	120	27573	Diamond Alkali Cartap	253
27482	Stauffer R-5910	616	27575	BAY 53744	442
27483	Shell SD-15456	134	27576	BAY 64054	482
27485	BAY 79330	42	27577	T-H 427-I	644
27490	Shell SD-15568	491	27578	BAY 70926	475
27497	Mobil MC-1937	89	27579	BAY 74747	476
27500	Chevron RE-9885	506	27580	BAY 75752	477
27506	Stauffer R-14487	663	27605	Geigy GS-19849	36
27507	Stauffer R-14488	669	27607	BAY 75546	624
27508	Stauffer R-14493	628	27608	BAY 79845	634
27509	Stauffer R-15552	7	27609	Mobil MC-2951	675
27519	Shell SD-16898	315	27610	Mobil MC-2572	520
27520	chlorpyrifos-methyl	690	27611	Mobil MC-2702	521
27521	fospirate	524	27612	Mobil MC-2680	517
27524	BAY 85032	205	27613	Shell SD-17250	314
27525	Thompson-Hayward TH-7465	354	27614	Hercules 17409	587
27528	Reynolds SAA 6A	741	27615	Hercules 17413	572
27529	Reynolds SAA 14 G	712	27616	Hercules 17884	698
27530	Reynolds SAA 21 G	289	27617	Hercules 18164	697
27531	Reynolds SAA 23 G	288	27618	Hercules 18526	678

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
27624	CIBA C-13963	175	27723	Pennwalt TD-8550	185
27625	CIBA C-2307	526	27727	Shell SD-16961	234
27626	BAY 88991	46	27728	Chemagro 5727	319
27627	BAY 89504	26	27729	Chemagro 5777	396
27628	Pechiney-Progil LS 65 821	655	27730	Chemagro 7290	428
27629	Pechiney-Progil LS 67-559	656	27731	Chemagro 8096	472
27630	Stauffer R-13293	201	27732	Chemagro 8189	473
27632	Stauffer R-15792	404	27733	Diamond-Shamrock DS-13182	767
27633	BAY 86256	14	27734	Thompson-Hayward TH-459-I	180
27634	CELA K-673	450	27735	Air Products AP-10045	570
27635	CELA S-2957	652	27736	Air Products AP-36945	565
27636	Stauffer R-17335	156	27738	Shell SD-14114	297
27637	Stauffer R-12466	239	27739	Shell SD-14328	748
27638	Stauffer R-12783	196	27740	Mobil MC-3427	129
27639	Stauffer R-13580	219	27741	Mobil MC-3470	514
27640	Stauffer R-14327	238	27742	Mobil MC-3515	513
27641	Stauffer R-16374	391	27743	Mobil MC-3815	502
27645	Upjohn U-25322	50	27744	Mobil MC-4044	523
27646	Upjohn U-27415	51	27745	BAY 82231	647
27647	Stauffer R-15996	664	27746	BAY 85950	645
27650	Hercules 16434	546	27747	BAY 85194	401
27651	Hercules 18290	696	27748	BAY 92114	92
27652	Hercules 18009	529	27750	Upjohn U-31751	150
27653	Hercules 18010	528	27752	Sandoz 52092	133
27654	Stauffer R-15018	702	27753	Sandoz 52097	142
27656	Sandoz 6607	471	27754	Sandoz 52114	132
27657	Stauffer R-13906	245	27755	Sandoz 52117	138
27658	BAY 91273	83	27756	Sandoz 52118	141
27659	BAY 93820	84	27759	Enjay ER-6622	600
27660	MMM MBR-5667	301	27760	Enjay ER-6624	597
27662	<u>d-trans</u> resmethrin	284	27761	Enjay ER-8699	596
27663	Kureha K-701	516	27762	Enjay ER-8700	599
27664	Stauffer R-15206	692	27764	Hoechst HOE-2960	668
27665	Stauffer R-16745	659	27769	Upjohn U-34013	632
27666	Stauffer R-15644	434	27770	Velsicol PCS-1475	12
27695	bendiocarb	212	27771	Velsicol PCS-1574	57
27698	pirimiphos-ethyl	672	27772	Velsicol RCS-1633	161
27699	pirimiphos-methyl	673	27773	Velsicol RCS-1712	97
27701	CIBA C-17018	227	27774	Velsicol RCS-1718	86
27702	CIBA C-17475	240	27775	Velsicol RCS-1725	251
27703	CIBA C-17551	241	27776	Velsicol RCS-1740	85
27704-X	Chevron Ortho RE 11775	236	27777	Velsicol RCS-1744	98
27706	Hercules 18676	167	27778	Velsicol RCS-1758	94
27707	Geigy GS-13006	558	27779	Velsicol RCS-1770	731
27720	Stauffer R-15396	660	27780	Velsicol RCS-1772	93
27721	Diamond-Shamrock DS-12581	37	27781	Velsicol RCS-1779	143
27722	Diamond-Shamrock DS-12580	35	27782	Velsicol RCS-1799	263

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
27783	Velsicol RCS-1817	154	27857	Stauffer R-19738	735
27784	Velsicol RCS-1818	13	27859	Stauffer R-20620	736
27785	Velsicol RCS-1819	727	27860	Stauffer R-20621	101
27786	Velsicol RCS-1821	58	27861	Stauffer R-20624	737
27787	Velsicol RCS-1822	87	27871	BAY 93220	3
27788	Velsicol RCS-1824	99	27872	Velsicol RCS-1855	392
27789	Velsicol RCS-1825	100	27900	Ansul AN-57000	674
27790	Velsicol RCS-1831	155	27901	Ansul AN-57605	608
27791	Velsicol RCS-1847	264	27905	Pennwalt TD-1771	247
27792	Velsicol RCS-1848	95	27906	Pennwalt TD-5056	107
27793	Velsicol RCS-1849	96	27907	Mobil MC-5664	213
27794	Velsicol RCS-1872	732	27908	CELA S-2956	653
27795	Velsicol RCS-1888	740	27909	Gulf Research & Development S-18219	723
27796	Velsicol RCS-1893	728	27910	malonoben	722
27797	Velsicol RCS-1894	38	27911	Stauffer R-19668	559
27798	Stauffer R-19641	538	27912	Stauffer R-20625	738
27799	Proctor & Gamble PG-131	751	27913	Stauffer R-20873	126
27804	Enjay ER-8687	688	27914	Sandoz-Wander SAN 52-135	468
27805	Enjay ER-8989	705	27915	Monsanto MON-0720	309
27806	Enjay ER-9007	595	27916	Shell SD-23687	435
27807	Enjay ER-9198	601	27917	Shell SD-26890	230
27808	Enjay ER-9362	598	27918	Squibb SQ-18506	363
27810	Plant Protection PP-156	299	27919	CIBA C-18244	439
27812	Enjay ER-8821	657	27941	CELA K-357	729
27813	Enjay ER-9403	685	27942	Ansul AN-2189	189
27814	Enjay ER-9404	6	27944	1-trans-dimethrin	278
27815	Enjay ER-9433	687	27945	Stauffer R-22607	139
27820	Rohm & Haas RH 412	704	27946	Stauffer R-23090	406
27822	acephate	474	27947	Stauffer R-23680	22
27823	Chevron RE 13913	487	27948	Stauffer R-24413	417
27824	Monsanto MON-856	724	27949	Upjohn U-32635	300
27825	BAY 85699	389	27950	Ansul 57003	693
27826	BAY HOX-1980	625	27953	Eli Lilly EL-473	72
27835	Enjay ER-9930	320	27954	Hercules 16801	170
27836	Enjay ER-9281	562	27955	Hercules 18777	90
27837	Enjay ER-9669	569	27956	Hercules 20656	588
27838	Chemagro 8556	426	27957	Ansul AN-2507	720
27839	Chemagro 8807	427	27967	amitraz	343
27840	Mobil MC-4158	511	27968-X	Upjohn U-38117	148
27841	BAY 88941	45	27969	CIBA C-20132	215
27845	BAY HOX-2052	619	27970	Shell SD-8832	465
27846	IMC 3957	330	27971	Shell SD-26738	440
27848	Enjay ER-9603	594	27975-X	Upjohn U-38099	233
27850	Monsanto MON-0768	102	27976	Shell SD-21427	258
27851	thiofanox	127	27977	Velsicol RCS-1761	310
27852	Uniroyal UNI-D239	758	27978	Velsicol RCS-2087	311
27853	Uniroyal UNI-D459	760	27979	Velsicol HCS-3500	484
27855	Uniroyal UNI-D048	752	27980	Velsicol HCS-3507	611
27856	Stauffer R-16876	257			

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
27981	BAY KUE-2302	160	29019	Upjohn U-29124	49
27982	BAY KUE-2327	244	29020	Merck MK-990	16
27984	Wyandotte BAS 235 I	203	29024	McLaughlin Gormley King RU-16121	280
27985	McLaughlin Gormley King RU-11679	270	29033	Mobil MC-6921	88
27987	NIA-26021	283	29035	Gulf Research & Development S-15053	56
27989	Sandoz-Wander SAN I 52139	137	29036	Shell SD-27426	177
27990	Wm. Cooper 11270	30	29037	Shell SD-28071	686
27991	Union Carbide UC-41305	730	29038	Shell SD-22639	626
27992	Stauffer R-17767	478	29040	Shell SD-33255	689
27993	Stauffer R-24711	140	29041	Stauffer R-22500	464
27994	Ansul AN-2514	388	29042	Stauffer R-26374	764
27995	Hercules 24108	157	29043	Stauffer R-26375	765
27996	Hercules 24734	163	29046	Stauffer R-28585	346
28800	Johnson 2650-R-54	710	29047	Stauffer R-28627	537
28801	Johnson 2650-R-57	711	29048	Eli Lilly L-5	73
28864	Johnson 2650-R-37	383	29049	Eli Lilly L-9	77
28865	Johnson 2650-R-68	761	29054	diflubenzuron	17
28866	Johnson 2650-R-75	382	29055	Shell SD-32963	71
28867	Johnson 2650-R-31	376	29060	Shell SD-8713	498
28868	Johnson 2650-R-65	377	29061	Pepro LS-68-1323	462
28869	Johnson 2650-R-35	380	29062	Sumitomo S-2539	281
28870	Johnson 2650-R-21	744	29063	Sumitomo S-2539 (forte)	282
28874	Johnson 2650-R-90	381	29065	Eli Lilly L-20	68
28875	Johnson 2650-R-92	378	29081	Hoechst H-71-0518	543
28876	Johnson 2650-R-93	362	29082	Hoechst H-71-0608	542
28877	Johnson 2650-R-97	367	29083	Hoechst H-72-5757	633
28878	Johnson 2650-R-104	379	29084	Abbott ABG-6070	277
28926	Johnson 2650-R-112	374	29093	Stauffer R-21279	463
28927	Johnson 2650-R-115	373	29094	Stauffer R-17543	390
28928	Johnson 2650-R-121	371	29095	CELAMERCK CM-IT-8737	641
28929	Johnson 2650-R-124	375	29096	CELAMERCK CM-IT-8986	642
28930	Johnson 2650-R-129	361	29098	CELAMERCK CM-S-4781	444
28948	Johnson 2650-R-136	370	29099	CELAMERCK CM-S-4506	648
28949	Johnson 2650-R-146	366	29100	Velsicol VEL-5011	483
28950	Johnson 2785-R-43	19	29101	BAY LOW-6599	48
28951	Johnson 2815-R-3	365	29102	BAY SRA-7660	47
28952	Johnson 2815-R-5	369	29103	Fisons NC-12781	762
28953	Johnson 2815-R-13	364	29104	Pepro LS-71.187	294
28954	Johnson 2815-R-15	368	29105	American Cyanamid CL-84565	268
28963	Johnson 4208-R-85	372	29106	American Cyanamid CL-84633	21
29005	Ortho XE-274	337	29107	Stauffer R-15015	618
29006	BAY HOX-1619	293	29108	Stauffer R-18268	252
29007	BAY HOX-1901	218	29109	Stauffer R-27222	766
29008-X	Sandoz-Wander SAN I 52129	638	29110	Stauffer R-30872	347
29009	Sandoz-Wander SAN I 132-247	469	29113	Fisons NC-12285	606
29010	Chemagro BAY Vd-4326	55			
29011	PPG-140	255			

AI3 No. (AI3-)	Name or Company No.	Item No.	AI3 No. (AI3-)	Name or Company No.	Item No.
29117	McLaughlin Gormley King RU-15525	276	29271	Eli Lilly L-28	79
29118	Rohm & Haas RH-8218	703	29272	Stauffer R-29534	8
29124	Sandoz-Wander SAN I-201	701	29273	Stauffer R-35864	575
29126	Sandoz-Wander SAN I-197	700	29274	Stauffer R-38921	557
29127	Upjohn U-42564	66	29276	Upjohn U-42660	328
29128	CIBA-GEIGY CGA-12223	636	29277	Upjohn U-42662	327
29129	CIBA-GEIGY CGA-18809	637	29278	Upjohn U-49904	332
29130	Union Carbide UC-39064	324	29279	FMC-45498	271
29131	Union Carbide UC-44858	323	29289-X	Abbott Pro-Gen	10
29139	Stauffer R-14802	680	29292	Diamond Shamrock DS-24363	188
29146	Pfizer UK-12860	216	29293	Diamond Shamrock DS-24366	187
29158	permethrin	275	29294	Diamond Shamrock DS-24367	186
29186	Fisons NC-13292	743	29295	FMC-30980	273
29189	ACF PH-1882	119	29296	FMC-35171	274
29194	Eli Lilly L-21	67	29297	FMC-45497	272
29195	Eli Lilly L-23	78	29313	Abbott A-41286	763
29196	Eli Lilly L-24	74	29314	Abbott A-47170	23
29197	Eli Lilly L-25	76	29315	Abbott A-47171	28
29198	CELAMERCK CM-UTH-1415	322	29319	Upjohn U-48633	336
29199	CELAMERCK CM-UTH-1424	321	29325	Eli Lilly L-29	69
29202	Stauffer R-15861	563	29326	Eli Lilly L-30	75
29203	Hoechst HOE-73-3393	429	32597	PCRB	5
29205	Upjohn U-42558	63	32599	PCRB	4
29206	Upjohn U-42661	65	32670	PCRB	291
29207	Upjohn U-42663	61	32673	PCRB	292
29208	Upjohn U-43006	59	33972	Hoffmann-La Roche Ro 6-9550	356
29209	Upjohn U-43007	60	70005	FMC-16824	393
29210	Upjohn U-44608	344	70035	Pfizer LM-62158	357
29211	Upjohn U-45831	64	70052	Hercules 11772	259
29212	Upjohn U-46074	62	70053	Hercules 12693	181
29214	Stauffer R-34674	249	70054	Hercules 11839	261
29215	Stauffer R-34912	248	70150	BAY 74774	325
29216	Stauffer R-35285	338	70151	BAY 79062	770
29221	Upjohn U-46506	345	70152	BAY 79504	771
29222	Upjohn U-46515	719	70179	Glidden-Durkee B-127-68	307
29223	Upjohn U-46516	718	70180	Glidden-Durkee B-136-68	303
29224	Upjohn U-46593	353	70181	Glidden-Durkee B-140-68	358
29225	Upjohn U-47503	333	70182	Glidden-Durkee B-144-68	308
29226	Upjohn U-47506	335	70280	Glidden-Durkee A-3-68	304
29234	Shell SD-41706	286	70281	Glidden-Durkee A-23-68	306
29235	Shell SD-43775	39	70282	Glidden-Durkee A-95-68	717
29242	Eli Lilly L-26	1	70283	Glidden-Durkee B-137-68	359
29243	Eli Lilly L-27	721	70348	Hoffman-La Roche EC-3290	302
29249	American Cyanamid AC-206797	745	70349	Hoffman-La Roche Ro 8-3627	91
29250	American Cyanamid AC-206769	746			
29267	American Cyanamid AC-206987	747			

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70350	Hoffmann-La Roche Ro 8-4314	355	70562	Stauffer R-29073	742
70351	Hoffmann-La Roche Ro 8-5496	384	70563	Stauffer R-31026	254
70377	Velsicol C-53	52	70564	Carboxide	11
70446	Glidden-Durkee GD-471	733	70646	Stauffer R-27707	20
70447	Glidden-Durkee GD-256	305	70647	Stauffer R-31192	15
70449	Hercules 22949	162	70648	Stauffer R-3319	18
70484-X	Thompson-Hayward TH-7501	360	70670	CIBA-GEIGY CGA-19255	768
70515	Glidden-Durkee GD-880	734	70671	CIBA-GEIGY CGA-34296	725
			70681	Stauffer R-38898	250

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